ENVIRON



April 1, 1999

Facsimile

Mr. Eric Wilson
Cornell-Dubilier Electronics Site On-Scene Coordinator
U.S. Environmental Protection Agency
2890 Woodbridge Avenue
Bldg. 209 (MS-211)
Edison, New Jersey 08837

Re: Sampling and Analysis Plan for Tier II Residential Property Removal Action Hamilton Industrial Park Site

(Index No. II-CERCLA-99-2006)

Dear Mr. Wilson:

In response to comments on the March 1999 Sampling and Analysis Plan for Tier II Residential Properties, South Plainfield, New Jersey (SAP) provided during your telephone call with Mark Nielsen of ENVIRON on March 30, 1999, the following information is provided to clarify the results for the data evaluation presented in the SAP.

Property BB:

Table 2-1 of the SAP indicates that the characterization data for Property BB were both normally and log-normally distributed. This determination was made using the specified Shapiro-Wilk statistical method. Under the Shapiro-Wilk method, it is possible for a data set to be considered both normally and log-normally distributed. Specifically, as part of the Shapiro-Wilk method, the computed test statistic value, W, is compared to the 5% critical value for the given sample size. If the computed W value exceeds the 5% critical value, then the data is determined to have the given distribution. It is possible for the untransformed (normal) value and the transformed (log-normal) value of W to exceed the given 5% critical value, and thus be considered both normal and log-normal. In an absolute comparison, the data may be considered to be more favorably distributed as normal if the W value computed for the untransformed data exceeds the W value by a greater amount than the computed W value for the transformed data.

For the PCB data set at Property BB, the computed value of W is 0.963 for the untransformed data, and 0.950 for the transformed data. The 5% critical value for the sample size of 9, is $W_{.05,9} = 0.829$. Thus, even though the data could be considered both normally and log-normally distributed by this method, the sample set shows greater evidence of normality than of log-normality. Therefore, the analysis presented for Property BB on Table 2-1 was based on a normal data distribution.

Property DD:

Table 2-1 of the SAP indicates that the characterization data for Property DD were not normally or log-normally as determined using the Shapiro-Wilk method. This determination results from the high number of nondetect samples and the few sample points with detected concentrations. Further, regardless of the number of samples removed from the data set the data set did not demonstrate a normal or log-normal distribution. Therefore, a normal distribution was assumed in computing the 95% upper confidence level of the mean (UCL) in Table 2-1; this resulted in the identification of one sample location for removal (sample CDDD004 having a concentration of 60 mg/kg). As shown on the enclosed table (revised Table 2-1), if a log-normal distribution had been assumed, the 95% UCL would also not exceed 1.0 mg/kg after removal of sample CDDD004 from the data set.

As you requested on March 30, this analysis was repeated assuming that the area associated with sample CDDD005 having a concentration of 4.68 mg/kg would also be removed. As shown on the enclosed table (revised Table 2-1), removing this sample from the data set did not change the determination that the data set does not demonstrate a normal or log-normal distribution. In addition, removal of this sample results in a 95% UCL value that is well below the cleanup criterion specified in the AOC. While removal of soils from this sample location is not required to meet the AOC-specified cleanup criterion, the SAP has been revised to reflect verification sampling from an area surrounding this location (see revised Figure 2-7, enclosed).

Sampling was initiated on March 31, 1999 in accordance with the SAP, as revised above; the enclosed pages reflect the requested revisions to the SAP.

If you have any questions or comments, please call me or Mark Nielsen at (609) 452-9000.

Sincerely,

Michael P. Scott

Principal

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Enclosure

cc: R. Sanoff, Esq., Foley, Hoag and Eliot

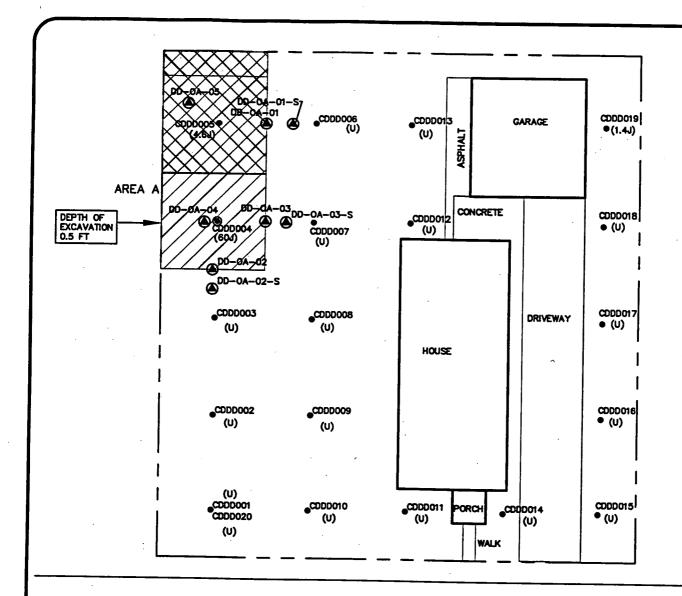
M. Last, Esq., Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

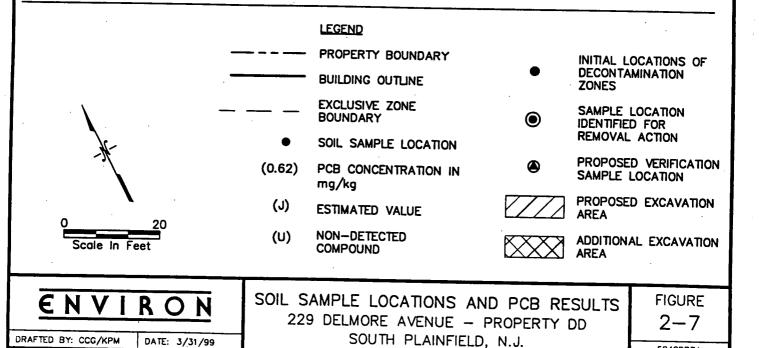
Muthu Sundram, Esq., USEPA

M. Nielsen, ENVIRON

	Sta	ntistical Anal	TABL ysis Of Prop		erization D)ata	
Property	Number of Samples, n, Used in the Statistical Analysis	Function Distribution	Maximum Concentration (mg/kg)	Mean Concentration (mg/kg)	Standard Deviation (mg/kg)	k _t (0.95,n-1)	95% Upper Confidence Level of the Mean (mg/kg)
U	19	Not Normal Not Log-Normal	11.08	5.23	3.08	1.73	6.5
		10, CDU001&CD			CDU009, CDU	J016, CDU00	98, CDU019,
CDU013, CI	OU011, CDU01	5, CDU005, CDU0	012, CDU017, CD	U002, CDU003		,	
U.	1	NA	0.89	0.89	0.00	2.35	0.9
		NA NA					
w	21	Normal Not Log-Normal	11.08	4.25	2.43	1.73	5.2
		021, CDW017, CD W-016, CDW-012,					
w	1	NA NA	0.9	0.90	0.00	6.31	0.9
X	20	Not Normal Log-Normal	5.18	1.44	1.08	1.73	1.9
Remove CD	X-005, CDX-01	5, CDX-008, CDX	-010, CDX-006, C	CDX-003, CDX-00	07, CDX-009, C	CDX-014	
X	11	Normal Not Log-Normal	1.28	0.84	0.38	1.8	. 1.0
AA	10	Normal Not Log-Normal	7.4	2.92	2.25	1.83	4.2
Remove CD	AA-007, CDAA	-001&CDAA-011,	CDAA-002, CDA	A-003. CDAA-00	4 CDAA-010	CD 4 4-009	CD 4 4-008
AA	2	NA NA	0.29	0.18	0.16	6.31	0.9
ВВ	19	Normal Log-Normal	3.67	1.43	0.80	1.73	1.7
Remove CDI	BB-001&CDBB	3-020, CDBB-012,	CDBB-011, CDBI	3-007, CDBB-006	, CDBB-003. C	DBB-002. C	DBB-008.
CDBB-009,		, == ,	,	,	,		
ВВ	9	Normal Log-Normal	1.32	0.80	0.34	1.86	1.0
сс	17	Normal Log-Normal	2.58	1.52	0.56	1.75	1.8
Remove CD	CC-012, CDCC	-013, CDCC-004,	CDCC-009, CDC	C-017, CDCC-008	B, CDCC-002,	CDCC-005,	CDCC-011,
CDCC-006,	CDCC-007, CI	OCC-016, CDCC-0	10, CDCC-015	,	, ,	,	 ,
cc	3	Normal Log-Normal	1	0.85	0.16	2.13	1.1
DD	19	Not Normal Not Log-Normal	60.08	3.62 0.29	13.71	1.73 3.51	9.1
Remove CDI	DD-004	1.5t Dog Hornial		0.27	7.02	10.0	3.1
DD	18	Not Normal	4.68	0.48	1.09	1.74	0.9
Demove CDY	DD-004, CDDD	Not Log-Normal		0.22	2.53	2.54	0.6
		Not Normal		0.24	0.22	1 75 T	0.4
DD	17	Not Log-Normal	1.48	0.24	0.32 1.72	1.75 2.54	0.4

Note: The statistical analysis was terminated if the maximum concentration on the Tier II Property was less than or equal to 1.0~mg/kg or the 95% UCL was less than or equal to 1.0~mg/kg.





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3.3.4 Excavation of Property AA

Based on the existing data set, the preliminary excavation area encompasses two locations with excavation depths of 0.5 feet. As shown in Figure 2-4, additional areas of excavation have been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 2 bottom samples will be collected on Property AA. Supplemental verification samples will also be collected as described in Section 3.2. Proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-4.

3.3.5 Excavation of Property BB

Based on the existing data set, the preliminary excavation area encompasses three locations with excavation depths of 0.5 feet. As shown on Figure 2-5, additional areas of excavation have been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 4 bottom samples and 4 sidewall samples will be collected on Property BB. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-5.

3.3.6 Excavation of Property CC

Based on the existing data set, the preliminary excavation area encompasses two locations with excavation depths of 0.5 feet. As shown on Figure 2-6, additional areas of excavation have been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 4 bottom samples and 3 sidewall samples will be collected on Property CC. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-6.

3.3.7 Excavation of Property DD

Based on the existing data set, the preliminary excavation area encompasses one location with an excavation depth of 0.5 feet. Based on the verification sampling strategy proposed in Section 3.2, 2 bottom samples and 3 sidewall samples will be collected on Property DD. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-7.

3.4 Disposal Sample Collection

If the selected disposal facility requires characterization samples, these samples will be collected in accordance with the disposal facility's requirements concurrent with the verification sampling activities.

Revised: 3/31/99 3-5

			4	Т	ABLE 3-1				
				Verification	Sample Identification				
Property	Excavation Area	Depth of Excavation (ft)	Boring Location	Sample ID	Sample Type	Sample 1 Top	Interval [ft] Bottom	Phase I Analysis	Comments
U	A	0.5	U-0A-01	U-0A-01-DS-02	Bottom	0.5	1.0	√	
U	Α	0.5	U-0A-01	U-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results
U	Α	0.5	U-0A-02	U-0A-02-DS-02	Bottom	0.5	1.0	1	
U	Α	0.5	U-0A-02	U-0A-02-DS-02-FD	QC - Field Duplicate	0.5	1.0	1	
U	Α	0.5	U-0A-02	U-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results
U	A	0.5	U-0A-03	U-0A-03-DS-02	Bottom	0.5	1.0	. 🗸	
U	A	0.5	U-0A-03	U-0A-03-DS-03-S	Supplemental Bottom ,	1.0	1.5		Hold for Phase I Results
U	Α	0.5	U-0A-04	U-0A-04-DS-02	Bottom	0.5	1.0	/	
U	A	0.5	U-0A-04	U-0A-04-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results
W	Α	1.0	W-0A-01	W-0A-01-DS-02-S	Supplemental Bottom	0.5	1.0		Hold for Phase I Results
W	Α	1.0	W-0A-01	W-0A-01-DS-03	Bottom	1.0	1.5	✓	
W	A	1.0	W-0A-01	W-0A-01-DS-03-MS	QC - Matrix Spike	1.0	1.5	✓	
W	A	1.0	W-0A-01	W-0A-01-DS-03-SD	QC - Matrix Spike Dup	1.0	1.5	✓	
W	A	1.0	W-0A-01	W-0A-01-DS-04-S	Supplemental Bottom	1.5	2.0		Hold for Phase I Results
W	A	1.0	W-0A-02	W-0A-02-DS-02-S	Supplemental Bottom	0.5	1.0		Hold for Phase I Results
W	A	1.0	W-0A-02	W-0A-02-DS-03	Bottom	1.0	1.5	✓	
W	A	1.0	W-0A-02	W-0A-02-DS-04-S	Supplemental Bottom	1.5	2.0		Hold for Phase I Results
W	<u>A</u>	1.0	W-0A-03	W-0A-03-DS-02-S	Supplemental Bottom	0.5	1.0		Hold for Phase I Results
w	A	1.0	W-0A-03 W-0A-03	W-0A-03-DS-03	Bottom Supplemental Bottom	1.0	1.5	✓	TILLIC DI ID I
X				W-0A-03-DS-04-S	·	1.5	2.0	<u> </u>	Hold for Phase I Results
X	A	0.5	X-0A-01 X-0A-01	X-0A-01-DS-02	Bottom	0.5	1.0	Y	77 11 C Di TD 1
X	A	0.5	X-0A-01 X-0A-02	X-0A-01-DS-03-S X-0A-02-DS-02	Supplemental Bottom Bottom	0.5	1.5	✓	Hold for Phase I Results
X	A	0.5	X-0A-02 X-0A-02	X-0A-02-DS-03-S	Supplemental Bottom	1.0		•	Hold for Phase I Results
X	. A	0.5	X-0A-02 X-0A-03	X-0A-03-DS-02	Bottom	0.5	1.5	/	Hold for Phase I Results
X	A	0.5	X-0A-03	X-0A-03-DS-03-S	Supplemental Bottom	1.0	1.5	_	Hold for Phase I Results
X	A	0.5	X-0A-04	X-0A-04-DS-02	Bottom	0.5	1.0	1	HOID TO FILASE I RESULTS
X	A	0.5	X-0A-04	X-0A-04-DS-03-S	Supplemental Bottom	1.0	1.5	,	Hold for Phase I Results
X	A	0.5	X-0A-05	X-0A-05-DS-01	Sidewall	0.0	0.5	1	Tiold for Thase Ticsurs
X	Α	0.5	X-0A-05	X-0A-05-DS-01-FD	QC - Field Duplicate	0.0	0.5	✓	
Х	Α	0.5	X-0A-05-S	X-0A-05-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	Α	0.5	X-0A-06	X-0A-06-DS-01	Sidewall	0.0	0.5	1	11010 101 11100 111000110
X	Α	0.5	X-0A-07	X-0A-07-DS-01	Sidewall	0.0	0.5	1	
X	A	0.5	X-0A-07-S	X-0A-07-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	A	0.5	X-0A-08	X-0A-08-DS-01	Sidewall	0.0	0.5	1	
X	A	0.5	X-0A-08-S	X-0A-08-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	Α	0.5	X-0A-09	X-0A-09-DS-01	Sidewall	0.0	0.5	✓	
X ·	A	0.5	X-0A-09-S	X-0A-09-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	A	0.5	X-0A-10	X-0A-10-DS-01	Sidewall	0.0	0.5	✓	
X	A	0.5	X-0A-10	X-0A-10-DS-01-MS	QC - Matrix Spike	0.0	0.5	✓:	
X	A	0.5	X-0A-10	X-0A-10-DS-01-SD	QC - Matrix Spike Dup	0.0	0.5	✓	
X	A	0.5	X-0A-10-S	X-0A-10-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	A	0.5	X-0A-11	X-0A-11-DS-01	Sidewall	0.0	0.5	✓	
X	A	0.5	X-0A-11-S	X-0A-11-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	A	0.5	X-0A-12	X-0A-12-DS-01	Sidewall	0.0	0.5	✓	
X	A	0.5	X-0A-12-S	X-0A-12-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	A	0.5	X-0A-13	X-0A-13-DS-01	Sidewall	0.0	0.5		TT.11 C 79 77 7
	A		X-0A-13-S	X-0A-13-DS-01-S	Supplemental Sidewall	0.0	0.5	,	Hold for Phase I Results
AA	A .	0.5	AA-0A-01	AA-0A-01-DS-02	Bottom	0.5	1.0	✓	
AA	' A	0.5	AA-0A-01	AA-0A-01-DS-02-MS	QC - Matrix Spike	0.5	1.0	V	
AA	A A	0.5	AA-0A-01	AA-0A-01-DS-02-SD	QC - Matrix Spike Dup	0.5	1.0	✓	
AA	A	0.5	AA-0A-02	AA-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results
AA	В	0.5	AA-0B-01	AA-0B-01-DS-02	Bottom	0.5	1.0	✓	
AA	В	0.5	AA-0B-01	AA-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results

				Verification	Sample Identification				
roperty	Excavation Area	Depth of Excavation	Boring Location	Sample ID	Sample Type	Sample I Top	interval [ft] Bottom	Phase I Analysis	Comments
DD.		(ft)	DD 04 01	DD 04 01 DC 00	T	0.5	1 10		
BB	A	0.5	BB-0A-01	BB-0A-01-DS-02	Bottom	0.5	1.0	√	
BB	A	0.5	BB-0A-01	BB-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
BB BB	A	0.5	BB-0A-02 BB-0A-02	BB-0A-02-DS-02	Bottom	0.5	1.0	V	TILLS DI ID
BB	A	0.5	BB-0A-02 BB-0A-03	BB-0A-02-DS-03-S	Supplemental Bottom Sidewall	1.0	1.5	✓	Hold for Phase I Res
BB	A A	0.5		BB-0A-03-DS-01	Supplemental Sidewall	0.0	0.5	Y	II-14 C Di I D.
BB	В	0.5	BB-0A-03-S BB-0B-01	BB-0A-03-DS-01-S BB-0B-01-DS-02	Bottom	0.0		√	Hold for Phase I Re
BB	В	0.5	BB-0B-01	BB-0B-01-DS-02-FD	QC - Field Duplicate	0.5	1.0	· /	
BB	В	0.5	BB-0B-01	BB-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5	, ,	Hold for Dhoor I Do
BB	В	0.5	BB-0B-02	BB-0B-02-DS-01	Sidewall	0.0	0.5	✓	Hold for Phase I Re
BB	В	0.5	BB-0B-02-S	BB-0B-02-DS-01-S	Supplemental Sidewall	0.0	0.5	· ·	Hold for Phase I Re
BB	С	0.5	BB-0C-01	BB-0C-01-DS-02	Bottom	0.5	1.0	✓	Hold for Fliase 1 Re
BB	C	0.5	BB-0C-01	BB-0C-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Re
BB	C	0.5	BB-0C-02	BB-0C-02-DS-01	Sidewall	0.0	0.5	✓	Hold for Fliase 1 Re
BB	C	0.5	BB-0C-02	BB-0C-02-DS-01-MS	QC - Matrix Spike	0.0	0.5	· /	
BB	C	0.5	BB-0C-02	BB-0C-02-DS-01-SD	QC - Matrix Spike Dup	0.0	0.5	·	
BB	C	0.5	BB-0C-02-S	BB-0C-02-DS-01-S	Supplemental Sidewall	0.0	0.5	,	Hold for Phase I Re
BB	C	0.5	BB-0C-03	BB-0C-03-DS-01	Sidewall	0.0	0.5	✓	Tiold for Thase Tike
BB	C	0.5	BB-0C-03-S	BB-0C-03-DS-01-S	Supplemental Sidewall	0.0	0.5	· ·	Hold for Phase I Re
CC	A	0.5	CC-0A-01	CC-0A-01-DS-02	Bottom	0.5	1.0	√	TIOIG TOT THESE THE
CC	A	0.5	CC-0A-01	CC-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Re
CC	A	0.5	CC-0A-02	CC-0A-02-DS-02	Bottom	0.5	1.0	✓	Hold for Thase I Re
CC	A	0.5	CC-0A-02	CC-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Re
CC	A	0.5	CC-0A-03	CC-0A-03-DS-02	Bottom	0.5	1.0	✓	Hold for Thase I Re
CC	A	0.5	CC-0A-03	CC-0A-03-DS-03-S	Supplemental Bottom	1.0	1.5	· ·	Hold for Phase I Re
CC	A	0.5	CC-0A-04	CC-0A-04-DS-01	Sidewall	0.0	0.5	1	Hold for Thase I Re
CC	A	0.5	CC-0A-04-S	CC-0A-04-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Re
CC	Α	0.5	CC-0A-05	CC-0A-05-DS-01	Sidewall	0.0	0.5	✓	Hold for Phase Fite
CC	A	0.5	CC-0A-05-S	CC-0A-05-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Re
CC	В	0.5	CC-0B-01	CC-0B-01-DS-02	Bottom	0.5	1.0	1	1101010111110011100
CC	В	0.5	CC-0B-01	CC-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Re
CC	В	0.5	CC-0B-02	CC-0B-02-DS-01	Sidewall	0.0	0.5	/	110101011110011110
CC	В	0.5	CC-0B-02	CC-0B-02-DS-01-FD	QC - Field Duplicate	0.0	0.5	4	
CC	В	0.5	CC-0B-02-S	CC-0B-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Re
DD	A	0.5	DD-0A-01	DD-0A-01-DS-01	Sidewall	0.0	0.5	✓	
DD	A	0.5	DD-0A-01-S	DD-0A-01-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Re
DD	A	0.5	DD-0A-02	DD-0A-02-DS-01	Sidewall	0.0	0.5	✓	
DD	A	0.5	DD-0A-02	DD-0A-02-DS-01-MS	QC - Matrix Spike	0.0	0.5	✓	
DD	A	0.5	DD-0A-02	DD-0A-02-DS-01-SD	QC - Matrix Spike Dup	0.0	0.5	√	
DD	Α	0.5	DD-0A-02-S	DD-0A-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Re
DD	A	0.5	DD-0A-03	DD-0A-03-DS-01	Sidewall	0.0	0.5	✓	
DD	A	0.5	DD-0A-03-S	DD-0A-03-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Re
DD	A	0.5	DD-0A-04	DD-0A-04-DS-01	Bottom	0.0	0.5	✓	
DD	A	0.5	DD-0A-04	DD-0A-04-DS-02	Bottom	0.5	1.0	1	
DD	A	0.5	DD-0A-04	DD-0A-04-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
DD	A	0.5	DD-0A-05	DD-0A-05-DS-01	Bottom	0.0	0.5	✓	
DD	A	0.5	DD-0A-05	DD-0A-05-DS-02	Bottom	0.5	1.0	✓	
DD	A	0.5	DD-0A-05	DD-0A-05-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
							102	59	

ENVIRON

March 17, 1999

Federal Express

United States Environmental Protection Agency 2890 Woodbridge Avenue Bldg. 209 (MS-211) Edison, New Jersey 08837 Attention: Cornell-Dublier Electronics Site On-Scene Coordinator

Chief, New Jersey Superfund Branch
Office of Regional Counsel
United States Environmental Protection Agency
290 Broadway, 17th Floor
New York, New York 10007-1866
Attention: Cornell-Dublier Electronics Site Attorney

Re:

Cornell-Dublier Electronics Site - Administrative Order on Consent for Removal

Action, Index Number II-CERCLA-99-2006

Sampling and Analysis Plan for Tier II Residential Properties

Dear Sir:

Please find attached for your review our Sampling and Analysis Plan for Tier II Residential Properties (207 Delmore Ave, 403 Hamilton Blvd., 115 Delmore Ave., 346 Hamilton Blvd., 511 Hamilton Blvd., 119 Delmore Ave., and 229 Delmore Ave. in South Plainfield, NJ) pursuant to Paragraphs 36 and 37 of the above-referenced Administrative Order on Consent. If you have any questions or comments, please call me or Mark Nielsen at (609) 452-9000.

Sincerely,

Michael P. Scott

Principal

MPS:iml

02-5840D.1:PRIN WP/10812v1.DOC

Enclosure

cc: R. Sanoff, Esq. M. Last, Esq.

SAMPLING AND ANALYSIS PLAN FOR TIER II RESIDENTIAL PROPERTIES SOUTH PLAINFIELD, NEW JERSEY

Prepared for

Foley, Hoag & Eliot, LLP and Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. Boston, Massachusetts

for submission to

USEPA Region II

Prepared by

ENVIRON Corporation Princeton, New Jersey

March 1999

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1.0 INTRODUCTION

1.1 Background

The United States Environmental Protection Agency (USEPA) has identified polychlorinated biphenyls (PCBs) in soils at seven residential properties in South Plainfield Township, Middlesex County, New Jersey (Tier II Properties). These properties are located west of the Hamilton Industrial Park (along Delmore Avenue and Hamilton Boulevard), which has recently been placed on the National Priorities List as a federal Superfund site (see Figure 1-1). Removal action activities and site restoration of these seven Properties has been mandated under an Administrative Order of Consent (AOC) issued by USEPA under CERCLA (Index Number II-CERCLA-99-2006). ENVIRON has been retained by Cornell Dubilier Electronics, Inc. (CDE) and Dana Corporation, Inc. to manage the removal action and restoration of these properties pursuant to the AOC.

1.2 Purpose

According to the AOC, sampling must be performed to verify attainment of the cleanup criterion for PCBs in residential soils. In order to facilitate the excavation and backfilling processes, and to minimize the inconvenience and impact on the people residing at the properties where soil excavation is to be performed, verification sampling will be conducted prior to excavation rather than in the conventional post-excavation manner.

In April 1998, USEPA collected surface soil samples (0 to 2 inches in depth including gravel cover) using a grid pattern at each site (see Appendix A). The purpose of this planned verification sampling program is to delineate the vertical and horizontal extent of PCB-containing soils warranting removal above 1 mg/kg. Data from these proposed soil samples and USEPA's previously collected data will be analyzed to determine the extent of soil removal required such that the 95% upper confidence limit (UCL) of the arithmetic mean PCB concentration in surface soils in the portion of the property not excavated does not exceed 1 mg/kg.

This Sampling and Analysis Plan (SAP) includes standard sampling and analysis procedures, sample management procedures, and incorporates USEPA Chain of Custody procedures, as set forth in the *National Enforcement Investigations Center Policies and Procedures Manual* (revised August 1991) the *National Enforcement Investigations Center Manual for the Evidence Audit* (September 1981), and SW-846.

1-1

2.0 ASSESSMENT OF EXISTING DATA

2.1 Introduction

Shallow surface soil samples were collected for each Tier II Property by USEPA in April 1998 to characterize the presence of PCBs at these properties. The results of this sampling are provided in Appendix A for the seven subject Properties. Based on these data for shallow soils, the sample locations identified for soil removal were defined using a statistical analysis designed to ensure that the AOC-specified cleanup criterion would be met following soil excavation; i.e., the 95% upper confidence limit (UCL) of the mean after soil excavation would not exceed the specified cleanup criterion of 1 mg/kg. The data analysis methodology to be used to define the scope of soil removal necessary to meet this cleanup objective was presented in ENVIRON's *Revised Residential Property Removal Action Work Plan* (November 1998) for Tier I Properties, approved by USEPA on December 7, 1998 (Tier I Work Plan).

2.2 Identification of Remedial Sample Locations

The data assessment process and resulting remediation sample locations are briefly described for each Property in the following sections. Results of the statistical analysis for each Property data set are summarized in Table 2-1.

2.2.1 Property U Remedial Sample Locations

Nineteen (19) shallow surface soil samples and one duplicate sample were collected on Property U by USEPA. Data for these shallow surface soil samples were statistically analyzed as described in the Tier I Work Plan. Eighteen (18) of the 19 samples were removed from the data set in order to meet the cleanup criterion. Sample locations, including the 18 sample locations identified for removal, are shown in Figure 2-1.

2.2.2 Property W Remedial Sample Locations

Twenty-one (21) shallow surface soil samples and one duplicate sample were collected on Property W by USEPA. Data for the shallow surface soil samples were statistically analyzed as described in the Tier I Work Plan. Twenty (20) of the 21 samples were removed from the data set in order to meet the cleanup criterion. Sample locations, including the 20 sample locations identified for removal, are shown in Figure 2-2.

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2.2.3 Property X Remedial Sample Locations

Twenty-two (22) shallow surface soil samples and one duplicate sample were collected on Property X by USEPA. Data for the shallow surface soil samples were statistically analyzed as described in the Tier I Work Plan. Nine (9) of the 22 samples were removed from the data set in order to meet the cleanup criterion. Sample locations, including the 9 sample locations identified for removal, are shown in Figure 2-3.

2.2.4 Property AA Remedial Sample Locations

Ten (10) shallow surface soil samples and one duplicate sample were collected on Property AA by USEPA. Data for the shallow surface soil samples were statistically analyzed as described in the Tier I Work Plan. Eight (8) of the 10 samples were removed from the data set in order to meet the cleanup criterion. Sample locations, including the 8 sample locations identified for removal, are shown in Figure 2-4.

2.2.5 Property BB Remedial Sample Locations

Nineteen (19) shallow surface soil samples and one duplicate sample was collected on Property BB by USEPA. Data for the shallow surface samples were statistically analyzed as described in the Tier I Work Plan. Ten (10) of the 19 samples were removed from the data set in order to meet the cleanup criterion. Sample locations, including the 10 sample locations identified for removal, are shown in Figure 2-5.

2.2.6 Property CC Remedial Sample Locations

Seventeen (17) shallow surface soil samples and one duplicate sample were collected on Property CC by USEPA. Data for the shallow surface soil samples were statistically analyzed as described in the Tier I Work Plan. Fourteen (14) of the 17 samples were removed from the data set in order to meet the cleanup criterion. Sample locations, including the 14 sample locations identified for removal, are shown in Figure 2-6.

2.2.7 Property DD Remedial Sample Locations

Nineteen (19) shallow surface soil samples and one duplicate sample were collected on Property DD by USEPA. Data for the shallow surface soil samples were statistically analyzed as described in the Tier I Work Plan. One (1) of the 19 samples was removed from the data set in order to meet the cleanup criterion. Sample locations, including the 1 sample location identified for removal, are shown in Figure 2-7.

3.0 SAMPLE COLLECTION

3.1 Objectives

This section describes the detailed procedures and methods to be implemented to sample soil prior to removal action activities to be conducted at the Tier II Properties, including the following elements:

- Excavation verification sampling requirements;
- Disposal sampling requirements;
- Standard field sampling and sampling decontamination protocols;
- · Sample management; and
- · Laboratory analytical methods.

3.2 Proposed Verification Sampling Approach

Prior to implementation of the removal action, verification samples will be collected from the base and sidewalls of each proposed excavation area. The final extent of required excavation will be determined by the statistical analysis methodology defined in the Tier I Work Plan. Specifically, the verification data obtained from sampling on each property will be combined with the remaining surface soil sample data from the portion of the property that is currently designated to remain unexcavated.

In accordance with the AOC, verification sampling will at a minimum include:

- The collection of one sample from the excavation bottom for every 900 square feet of bottom area.
- The collection of one sample at the bottom of each sidewall for every thirty (30) linear feet of sidewall.

The bottom verification samples will be collected as grab samples from the six-inch interval below the proposed excavation depths.

The sidewall verification samples will be collected as grab samples from the sides of the proposed excavation areas at the six-inch interval above the proposed bottom depth of the

excavation areas. Verification sidewall sampling will include the collection of a sample from a 0- to 6-inch depth in addition to the sample to be collected at the depth of the bottom of the excavation. The purpose of the 0- to 6-inch surface soil sample is to verify the horizontal surficial limits of excavation. Alternatively, the excavation may be extended to the nearest horizontal barrier (i.e., existing pavement or physical structure), to the limit of apparent residential use (including fencelines), or existing surface sample location not identified for excavation. For the cases where excavations extend to a horizontal barrier, no sidewall verification sampling will be conducted, as the excavation has been extended to a point at which no direct exposure to soil exists (i.e., pavement eliminated direct contact). Similarly, no sidewall samples will be collected where the excavation extends to the limit of residential use associated with the subject Property. For excavations extended to the nearest surface soil sample not identified for excavation, the 0- to 6-inch sidewall sample will not be collected.

In addition, supplemental samples will be collected outside the proposed excavation area and held by the analytical laboratory for possible future analysis. Supplemental sidewall samples will be collected approximately five feet away from the initial sidewall verification sample locations. Similarly, bottom supplemental samples will be collected at additional depth intervals beneath the proposed excavation depths. The supplemental samples will not be analyzed unless the initial verification samples exhibit concentrations that result in a statistical exceedance of the cleanup level. In this case, the supplemental samples adjacent to the subject initial samples will be analyzed to determine the degree of additional excavation required.

Upon request by USEPA, duplicate and/or split samples of any material sampled in connection with the implementation of the AOC will be provided to USEPA or its designated representatives.

3.2.1 Verification Sampling: Bottom Area Sample Locations

The following steps will be used to identify sample locations at the bottom of each excavation area:

- For each distinct excavation area within a property, the total excavation area will be determined.
- The number of excavation bottom samples will be computed by dividing the excavation area by 900. Any fraction will be rounded up to the nearest whole number.
- The appropriate number of samples will be positioned in central locations throughout each excavation area.

3.2.2 Verification Sampling: Sidewall Sample Locations

The following steps will be used to identify sample locations along each excavation sidewall:

- The total linear feet of the excavation boundary to be sampled will be determined.

 This excludes sidewalls adjacent to houses, paved areas and residential use boundaries associated with the subject Property.
- The number of sidewall samples required will be computed by dividing the total linear feet of sidewall (as determined above) by 30 and by rounding up any fraction to the nearest whole number.
- The appropriate number of samples will be evenly distributed along the sidewall. If
 only one sample is to be collected, the sample will be positioned in the center of the
 section. If two or more samples are to be collected, the samples will be spaced apart
 such that the distance between each end sample and the sidewall border is equal to the
 distance between each sample.

3.3 Proposed Verification Sampling Plan

As discussed above, bottom, sidewall, and supplemental soil samples will be collected at the Tier II Properties during this sampling program. Figures 2-1 through 2-7 show the proposed boring locations on the Tier II Properties. Table 3-1 lists each sample and its corresponding depth on each Tier II Property.

Based on an evaluation of soil characterization data collected by USEPA, ENVIRON has applied the following approach for defining the preliminary areal extent of PCBs in soils to be excavated for this removal action.

- As a simplifying step, the removal action area associated with a given sample location is considered to be rectangular.
- Horizontal boundaries of PCB removal action areas are established midway between
 contiguous sampling points. Barriers such as walls and pavement boundaries, where
 present, and the Tier II Property boundaries (or associated limits of residential use) are
 also taken to be horizontal boundaries.

- Based on the existing Tier II soil data and the results of delineation sampling on the Tier I properties, vertical boundaries of PCB removal action areas are estimated at 0.5 feet at Properties U, X, AA, BB, CC, and DD and 1.0 feet at Property W.
- Additional area between separate delineated excavation areas, and between delineated
 excavation areas and horizontal barriers or residential use limits, may also be excavated
 to eliminate or reduce the number of verification samples. These additional areas will be
 identified on a case-by-case basis.

3.3.1 Excavation of Property U

Based on the existing data set, the preliminary excavation area is estimated to include most of the Property with an excavation depth of 0.5 feet. As shown in Figure 2-1, additional areas of excavation have been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 4 bottom samples will be collected on Property U. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-1.

3.3.2 Excavation of Property W

Based on the existing data set, the preliminary excavation area is estimated to include most of the Property with an excavation depth of 1.0 feet. As shown in Figure 2-2, an additional area of excavation has been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 3 bottom samples will be collected on Property W. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-2.

3.3.3 Excavation of Property X

Based on the existing data set, the preliminary excavation area encompasses one location with an excavation depth of 0.5 feet. As shown in Figure 2-3, an additional area of excavation has been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 4 bottom samples and 9 sidewall samples will be collected on Property X. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-3.

3.3.4 Excavation of Property AA

Based on the existing data set, the preliminary excavation area encompasses two locations with excavation depths of 0.5 feet. As shown in Figure 2-4, additional areas of excavation have been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 2 bottom samples will be collected on Property AA. Supplemental verification samples will also be collected as described in Section 3.2. Proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-4.

3.3.5 Excavation of Property BB

Based on the existing data set, the preliminary excavation area encompasses three locations with excavation depths of 0.5 feet. As shown on Figure 2-5, additional areas of excavation have been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 4 bottom samples and 4 sidewall samples will be collected on Property BB. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-5.

3.3.6 Excavation of Property CC

Based on the existing data set, the preliminary excavation area encompasses two locations with excavation depths of 0.5 feet. As shown on Figure 2-6, additional areas of excavation have been designated at this Property. Based on the verification sampling strategy proposed in Section 3.2, 4 bottom samples and 3 sidewall samples will be collected on Property CC. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-6.

3.3.7 Excavation of Property DD

Based on the existing data set, the preliminary excavation area encompasses one location with an excavation depth of 0.5 feet. Based on the verification sampling strategy proposed in Section 3.2, 2 bottom samples and 3 sidewall samples will be collected on Property DD. Supplemental verification samples will also be collected as described in Section 3.2. The proposed excavation areas and initial verification sampling locations are illustrated in Figure 2-7.

3.4 Disposal Sample Collection

If the selected disposal facility requires characterization samples, these samples will be collected in accordance with the disposal facility's requirements concurrent with the verification sampling activities.

Revised: 3/31/99

3.5 Field Procedures

This section describes the general approach for implementing field sampling activities for the collection of verification soil samples from each Property; standard sampling procedures are provided in Appendix A.1 of the Tier I Work Plan. The following field protocol will be used.

3.5.1 Shallow Surface Soil Sampling

Shallow surface soil samples will be collected from 0 to 6 inches below any surface cover (i.e. gravel) using a clean hand trowel or hand auger. The trowel or auger will be decontaminated between each sample, following the procedures described in Section 3.5.3 below.

3.5.2 Deep Soil Sampling

Soil samples from below a depth of 6 inches will be collected using a clean hand auger. Soils will be collected from an interval of 0 to 6 inches at the specified depth. The hand auger will be decontaminated between each sample interval, following the procedures described in Section 3.5.3 below. For samples to be collected only from a single discrete interval, one auger may be used until the top of the sampling interval is reached, and then a new decontaminated auger will be used to collect the sample.

3.5.3 Sampling Equipment Decontamination Procedures

All sampling equipment will be decontaminated prior to use and will arrive on-site in clean condition. All sampling equipment will also be decontaminated between each use using the following or equivalent procedure:

- Place dirty equipment on plastic ground sheet or in similar containment area;
- Wash thoroughly with a laboratory detergent (Alconox or equivalent) to remove any particulate matter and/or surface films using bristle brush, as needed (sampling equipment with oil or other hard to remove materials may require rinsing with isopropanol prior to washing with the detergent solution);
- Rinse thoroughly with clean potable water;
- Rinse thoroughly with clean deionized water;
- Air-dry; and

 Wrap decontaminated equipment in aluminum foil (shiny side out) for storage and transportation.

Prior to implementing decontamination of the sampling equipment, a location within the sampling area will be designated for these activities. Wash water will be allowed to evaporate or infiltrate into the ground within areas designated for excavation.

3.5.4 Sample Management

ENVIRON sample management procedures are described in detail in Appendix A.1 of the Tier I Work Plan and are summarized below. These procedures are equivalent to those provided in *NEIC Policies and Procedures*, May 1978 [Revised August 1991].

ENVIRON personnel will keep a bound field notebook recording all activities at the Tier II Properties, including sample collection and tracking information. All samples submitted for analysis under this plan will be collected and shipped by ENVIRON personnel. A unique sample code will be assigned to each sample collected. This code will consist of different parts to identify the site, sample media, sample location, and the sample type (i.e., environmental, duplicate sample, field blank, etc.). Sample types and location designations in the sample code will be such that they will be compatible with the site and overall project data base system. The codes and their representation are defined in Table 3-2.

All sampling containers and preservatives will be provided by a designated laboratory. Samples will be stored in coolers until they can be shipped to the laboratory. Samples will be transported from the field to the designated laboratory using an overnight carrier service. All sample containers will be shipped with chain-of-custody records. A separate chain-of-custody will accompany each cooler. These chain-of-custody records will be completed by the field sampling personnel and returned with the samples. All samples shipped to the designated laboratory will be packaged and shipped as excluded materials (as defined in 40 CFR Part 261.4). Sample packaging procedures will comply with all U.S. Department of Transportation (DOT) requirements and International Air Transport Association (IATA) standards, as detailed in the most current edition of the IATA Dangerous Goods Regulations for hazardous materials shipment.

Upon sample receipt at the designated laboratory, all sample collection dates are to be noted by the sample custodian. The required date for completion of analysis (or extraction) will be noted and keyed to the holding time. A Laboratory Project Manager will have been assigned and will be responsible for ensuring proper execution of all required analyses.

3.6 Laboratory Analytical Methods

Soil samples will be analyzed for PCBs. All analyses for PCBs will comply with the analytical procedures presented in USEPA's *Test Methods for Evaluating Solid Waste (Physical/Chemical Methods)*, SW-846, Third Edition, September 1986. Method 8082 (Revision 0, December 1996) will be used for PCB analyses. See Table 3-3 for sample preservation, containers and holding times for the specified analyses.

3.7 Property Access

Access agreements from the owners of each of the seven Tier II Properties (Table 3-4) will be obtained to conduct the work specified in the AOC before any site work begins.

3.8 Quality Assurance Project Plan

A Quality Assurance Project Plan (QAPP) (as discussed in Appendix A of the Tier I Work Plan) has been prepared in accordance with the following guidance documents for all sample collection and analysis activities conducted pursuant to the AOC: USEPA SW-846; Guidance for Preparation of Combined Work/Quality Assurance Project Plans for Environmental Monitoring, USEPA, May 1984; National Enforcement Investigations Center Policies and Procedures Manual, May 1978, revised August 1991; and the National Enforcement Investigations Center Manual for the Evidence Audit, September 1981. The purpose of the QAPP is to summarize the standard procedures and methods for sample collection and analysis to be followed during implementation of removal action activities. This will ensure that the results are of sufficient quality and can be used to (1) reliably indicate the presence or absence of PCBs; and (2) reliably determine the extent of soil removal required in order to remediate the site in accordance with the criterion specified in the AOC.

Standard quality assurance/quality control (QA/QC) protocols will be followed during this sampling program to ensure that the results of this sampling are of sufficient quality and can be used to reliably indicate the presence or absence of constituents. QA/QC protocols to be utilized for this program are equivalent to those provided in the guidance documents described above. The evaluation of data will involve the collection of QC samples in accordance with the sampling and analysis protocols. The QA/QC protocols will also include the systematic validation of the analytical data and the management of the analytical data in electronic format.

QA/QC samples will be collected at the frequencies listed below. The specific sample identifications and locations are included in Table 3-1.

• One field duplicate sample will be collected for every 20 soil samples collected. Duplicate samples will be analyzed for all parameters for which the corresponding sample pairs are analyzed.

- One matrix spike/matrix spike duplicate sample will be collected for every 20 soil samples collected. Matrix spike samples will be analyzed for all parameters for which the corresponding sample pairs are analyzed.
- One field equipment rinsate blank will be collected for each day of sampling from decontaminated sampling equipment. Rinsate blanks will be analyzed for all parameters for which the samples collected are analyzed.

4.0 HEALTH AND SAFETY PLAN (HASP)

ATC Associates has prepared a site-specific HASP to provide job safety and security in compliance with 29 CFR 1910.120; a copy of the HASP is provided in Appendix E of the Tier I Work Plan. Specific elements addressed in this HASP include:

- General information including site name, address, contact, background, work objectives, names of personnel who will be on-site, and names of key personnel responsible for site safety;
- · Potential physical, chemical, and biological hazards;
- · A brief hazard evaluation;
- Descriptions of appropriate levels of personal protection and decontamination;
- Air Monitoring Plan and dust control measures; and
- Emergency services information.

All ENVIRON personnel who will be conducting sampling and removal action oversight activities at the site under this program will be required to read and sign the HASP. All contractors performing work related to this removal action will be required to prepare a HASP that meets the minimum requirements set forth in the HASP provided in Appendix E of the Tier I Work Plan.

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TABLES

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	Sta	ntistical Analy	TABL ysis Of Prop		erization I	ata	
Property	Number of Samples, n, Used in the Statistical Analysis	Function Distribution	Maximum Concentration (mg/kg)	Mean Concentration (mg/kg)	Standard Deviation (mg/kg)	k, (0.95,n-1)	95% Upper Confidence Level of the Mean (mg/kg)
υ	19	Not Normal Not Log-Normal	11.08	5.23	3.08	1.73	6.5
		10, CDU001&CD			CDU009, CDI	J016, CDU00	8, CDU019,
CDU013, C	DU011, CDU01	5, CDU005, CDU	712, CDU017, CD			1 225	
U	-1	NA NA	0.89	0.89	0.00	2.35	0.9
w	21	Normal Not Log-Normal	11.08	4.25	2.43	1.73	5.2
		21, CDW017, CD					
CDW-001&	CDW-022, CD	W-016, CDW-012,	CDW-015, CDW	7-014, CDW-003,	CDW-020, CD	W-002, CDW	7-007
W	1	NA NA	0.9	0.90	0.00	6.31	0.9
		Not Normal	6.50	1.44	1.08	1.73	1.9
X	20	Log-Normal	5.18				
Remove CD	X-005, CDX-0	15, CDX-008, CDX	(-010, CDX-006,	CDX-003, CDX-0	07, CDX-009, 0	CDX-014	
х	11	Normal Not Log-Normal	1.28	0.84	0.38	1.8	1.0
AA	10	Normal Not Log-Normal	7.4	2.92	2.25	1.83	4.2
Parmana CD	A A 007 CD 4	1-001&CDAA-011	CD 4 4-002 CD	A A - 003 CTD A A - 04	M CDAA 010	CDA A-000	CDA 4-00\$
KELLOVE CED		NA NA		0.18	0.16	6.31	0.9
AA	2	NA NA	0.29	V.20	0.70	1	<u> </u>
BB	19	Normal	3.67	1.43	0.80	1.73	1.7
	<u> </u>	Log-Normal		7 005 67777 00	((777777) 000	CD TO 000 (WW WW
Remove CD CDBB-009,		3-020, CDBB-012,	CDBB-VII, CDB	D-00/, CDBB-00	o, CUBB-003, (LNBB-W2, (.₽₽₽-₩\$ ₎
		Normal		0.80	0.34	1.86	1.0
BB	9	Log-Normal	1.32		1		-
cc	17	Normal Log-Normal	2.58	1.52	0.56	1.75	1.8
Remove Ch	CC-012 CDC0	C-013, CDCC-004,	CDCC-009, CDC	L CC-017, CDCC-00	8. CDCC-002	CDCC-005	CDCC-011
		DCC-016, CDCC-			,,	,	
СС	3	Normal Log-Normal	1	0.85	0.16	2.13	1,1
		Not Normal		3.62	13.71	1.73	9-1
DD	19	Not Log-Normal	60.08	0.29	4.82	3.51	3.7
Remove CD	DD-004						
DD	18	Not Normal	4.68	0.48	1.09	1.74	0.9
	<u> </u>	Not Log-Normal	<u> </u>	0.22	2.53	2.54	0.6
Remove CD	DD-004, CDDI		· · · · · · · · · · · · · · · · · · ·				
DD	17	Not Normal	1.48	0.24	0.32	1.75	0.4
		Not Log-Normal	L .	0.18	1.72	2.54	0.3

Note:

The statistical analysis was terminated if the maximum concentration on the Tier II Property was less than or equal to 1.0 mg/kg or the 95% UCL was less than or equal to 1.0 mg/kg.

	Sta	atistical Anal	TABL ysis Of Prop		erization D)ata		
Property	Number of Samples, n, Used in the Statistical Analysis	Function Distribution	Maximum Concentration (mg/kg)	Mean Concentration (mg/kg)	Standard Deviation (mg/kg)	k, (0.95,n-1)	95% Upper Confidence Level of the Mean (mg/kg)	
U	19	Not Normal Not Log-Normal	11.08	5.23	3.08	1.73	6.5	
Remove: C CDU013, C	DU0014, CDU0 DU011, CDU01	010, CDU001&CI 15, CDU005, CDU	0U020, CDU007, 012, CDU017, C	CDU006, CDU01 DU002, CDU003	8, CDU009, C	DU016, CDI	U008, CDU019,	
U	1	NA NA /	/ 0.89	0.89	0.00	2.35	0.9	
w	21	Normal Not Log-Normal	11.08	4.25	2.43	1.73	5.2	
Remove: C CDW-001&	DW018, CDW CDW-022, CD	021, CDW017, CI W-016, CDW-012	OW010, CDW008 , CDW-015, CDV	, CDW004, CDW V-014, CDW-003,	011, CDW005 CDW-020, CI	, CDW009, DW-002, CD	CDW013, 0W-007	
v w	1	NA NA	/ 0.9	0.90	0.00	6.31	0.9	
Х	20 🗸	Not Normal Log-Normal	5.18	1.44	1.08	1.73	1.9 2.2	
Remove CD	X-005, CDX-0	15, CDX-008, CD	X-010, CDX-006,	CDX-003, CDX-	007, CDX-009.	CDX-014	2.0	/ /
X	11	Normal Not Log-Normal	1.28	0.84	0.38	1.8	1.0	10V
AA	10	Normai Not Log-Normal	7.4	2.92	, 2.25	1.83	4.2	`
Remove CD	AA-007, CDA	A-001&CDAA-011	, CDAA-002, CD	AA-003, CDAA-0	004, CDAA-010	0, CDAA-00	9, CDAA-008	
· AA	2	NA NA	V 0.29	0.18	○0.16	6.31 .	0.9	<u> </u>
ВВ	19	Normal Log-Normal	3.67	1.43 V	0.80	1.73	1.7 🗸	
	BB-001&CDBI CDBB-010	B-020, CDBB-012,	CDBB-011, CDI	3B-007, CDBB-00	06, CDBB-003,	CDBB-002,	CDBB-008,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
ВВ	9	.(Normal)	R 1.32	0.80	0.34	1.86	1.0	108m
СС	17	Normal Log-Normal	2.58	1.52	0.56	1.75	1.8 🗸	18 000
temove CD CDCC-006/	CC-012, CDCC CDCC-007, CI	-013, CDCC-004, DCC-016, CDCC-	CDCC-009, CD 010, CDCC-015	CC-017, CDCC-0	08, CDCC-002	, CDCC-00	CDCC-0111	Core
сс	3	Normal Log-Normal	1 1	0.85	0.16	2.13	1.1 .	
DD	19	Not Normal Not Log-Normal	60.08	3.62	13.71	1.73	9.1	
emove CD	DD-004			,				
DD	18 (Not Normal Not Log-Normal	4.68	0.48	1.09	1.74	0.9	
lote:			if not	ion on the Tier II	u an	~ ~ ·	uee —	

					ABLE 3-1		,		
				Verification 3	Sample Identification			u	
Property	Excavation	Depth of	Boring	Sample ID	Sample Type	Sample	Interval [ft]	Phase I	Comments
	Area	Excavation	Location			qoT	Bottom	Analysis	
		(ft)	0007						
υ	A	0.5	U-0A-01	U-0A-01-DS-02	Bottom	0.5	1.0	. 🗸	
υ	Ā	0.5	U-0A-01	U-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
U	A	0.5	U-0A-02	U-0A-02-DS-02	Bottom	0.5	1.0	✓	
U	A	0.5	U-0A-02	U-0A-02-DS-02-FD	QC - Field Duplicate	0.5	1.0	✓	
Ŭ	Α	√0.5	U-0A-02	U-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
U	A	0.5	U-0A-03	U-0A-03-DS-02	Воиот	0.5	1.0		
ט	A	0.5	U-0A-03	U-0A-03-DS-03-S	Supplemental Bottom	1.0	, 1.5		Hold for Phase I Res
Ŭ	A	0.5	U-0A-04	U-0.A-04-DS-02	Bottom	0.5	1.0	✓	
Ū	A	0.5	U-0A-04	U-0A-04-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
W	A	1.0	W-0A-01	W-0A-01-DS-02-S	Supplemental Bottom	0.5	1.0		Hold for Phase I Res
W	A	1.0	W-0A-01	W-0A-01-DS-03	Bottom	1.0	1.5	; -	
W	A	1.0	W-0A-01	W-0A-01-DS-03-MS	QC - Marrix Spike	1.0	1.5		man y a company of the company of th
w	Α	1.0	W-0A-01	W-0A-01-DS-03-SD	QC - Matrix Spike Dup	1.0	1.5	_	
w	l A	1.0	W-0A-01	W-0A-01-DS-04-S	Supplemental Bottom	1.5	2.0		Hold for Phase I Res
- w	A	1.0	W-0A-02	W-0A-02-DS-02-S	Supplemental Bottom	0.5	1.0	i	Hold for Phase I Res
w	A	1.0	W-0A-02	W-0A-02-DS-03	Bottom	1.0	1.5	_	
w	A	1.0	W-0A-02	W-0A-02-DS-04-S	Supplemental Bottom	1.5	2.0		Hold for Phase I Res
w	A.	1.0	W-0A-03	W-0A-03-DS-02-S	Supplemental Bottom	0.5	1.0	<u> </u>	Hold for Phase I Res
<u>;;</u>	Ā	1.0	W-0A-03	W-0A-03-DS-03	Bostom	1.0	1.5	1	TOTAL TOTAL TRANSPORT
w	A	1.0	W-0A-03	W-0A-03-DS-04-S	Supplemental Bottom	1.5	1.0		Hold for Phase I Res
×	A	0.5	X-0A-01	X-0A-01-DS-02	Bottom	0.5	1 1.0	· /	TION TOT THASE I ICCS
$\frac{\hat{x}}{x}$	Ā	0.5	X-0A-01	X-0A-01-DS-03-S	Supplemental Bottom	1.0	+	•	Hold for Phase I Res
$\frac{\hat{\mathbf{x}}}{\mathbf{x}}$		0.5	X-0A-01 X-0A-02	X-0A-02-DS-02	Bottom	0.5	1.5	, — 	Hold for Phase I Kes
÷	- A	0.5	and the second second	 ***** Transfer of the control of the c				<u>`</u>	TV-14 for Dhara I Day
-	' A	0.5	X-0A-02 X-0A-03	X-0A-02-DS-03-S X-0A-03-DS-02	Supplemental Bottom Bottom	1.0	1.5	 _	Hold for Phase I Resi
X	A	0.5	X-0A-03	X-0A-03-DS-03-S		0.5	1.0		77.11.6 - Di . 7 D
$\frac{\Lambda}{X}$		0.5	X-0A-04	X-0A-04-DS-02	Supplemental Bottom	1.0	1.5	-	Hold for Phase I Res
X	A A	0.5	X-0A-04	X-0A-04-DS-03-S	Bottom Section	0.5	1.0		Yald Car Dhan T Dan
X		0.5	X-0A-05	X-0A-05-DS-01	Supplemental Bottom	1.0	1.5	' /	Hold for Phase I Res
· <u>^</u>	A	0.5	X-0A-05	X-0A-05-DS-01-FD	Sidewall	0.0	0.5	, ,	
x	A	0.5	X-0A-05-S		QC - Field Duplicate	0.0	0.5	<u> </u>	
	A			X-0A-05-DS-01-S	Supplemental Sidewall i	0.0	0.5	!	Hold for Phase I Res
<u>x</u>	<u> </u>	0.5	X-0A-06	X-0A-06-DS-01	Sidewall	0.0	0.5	✓ ✓	
X	. A	0.5	X-0A-07	X-0A-07-DS-01	Sidewall	0.0	0.5		
<u>x</u>	<u>A</u>	0.5	X-0A-07-S	X-0A-07-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
X	A	0.5	X-0A-08	X-0A-08-DS-01	Sidewall	, 0.0	0.5	~	
X	A	0.5	Z-80-A0-X	X-0A-08-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
<u> </u>	A	0.5	X-0A-09	X-0A-09-DS-01	Sidewall	0.0	0.5	✓	
X	<u>A</u>	0.5	X-0A-09-S	X-0A-09-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
<u> </u>	A	0.5	X-0A-10	X-0A-10-DS-01	Sidewall	0.0	0.5	<u> </u>	
X	A	0.5	X-0A-10	X-0A-10-DS-01-MS	QC - Matrix Spike	0.0	0.5		
<u> </u>	A	0.5	X-0A-10	X-0A-10-DS-01-SD	QC - Marrix Spike Dup	0.0	0.5	~	
X	. A	0.5	X-0A-10-S	X-0A-10-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
X	A	0.5	X-0A-11	X-0A-11-DS-01	Sidewall	0.0	0.5	1	
X	. A	0.5	X-0A-11-S	X-0A-11-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Rest
X	. A	0.5	X-0A-12	X-0A-12-DS-01	Sidewall	0.0	0.5	7	
_ <u>x</u>	<u>A</u>	0.5	X-0A-12-S	X-0A-12-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Res
X	A\	0.5	X-0A-13	X-0A-13-DS-01	Sidewall	0.0	0.5	✓	
Х	A	0.5	X-0A-13-S	X-0A-13-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Res
AA	A	0.5	AA-0A-01	AA-0A-01-DS-02	Bottom	0.5	1.0	~	
AA	<u>A</u>	0.5	AA-0A-01	AA-0A-01-DS-02-MS	QC - Matrix Spike	0.5	1.0	·	••
AA	Ā	0.5	AA-0A-01	AA-0A-01-DS-02-SD	QC - Matrix Spike Dup	0.5	1.0		•
AA	A	0.5	AA-0A-02	AA-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Rest
AA	B }	0.5	AA-0B-01	AA-0B-01-DS-02	Bottom	0.5	1.0	7	
AA	В	0.5	AA-0B-01	AA-08-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu

roperty	Excavation	Depth of	Boring	Sample ID	Sample Type	Sample 1	nterval [ft]	Phase I	Comments
	Area	Excavation	Location			Top	Bottom	Analysis	, OURSELES
		(ft)							
BB	Α	0.5	BB-0A-01	BB-0A-01-DS-02	Bottom	0.5	1.0	<u> </u>	
BB	A	0.5	BB-0A-01	BB-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
ВB	A	0.5	BB-0A-02	BB-0A-02-DS-02	Bottom	0.5	1.0		
BB	A	0.5	BB-0A-02	BB-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
BB	A	0.5	BB-0A-03	BB-0A-03-DS-01	Sidewall	0.0	0.5	~	22010 102 22100
BB	A	0.5	BB-0A-03-S	BB-0A-03-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Res
BB	В	0.5	BB-0B-01	BB-0B-01-DS-02	Bottom	0,5	1.0	~	
BB	В	0.5	BB-0B-01	BB-0B-01-DS-02-FD	QC - Field Duplicate	0.5	1.0	/	
BB	В	0.5	BB-08-01	BB-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
BB .	B	0.5	BB-06-02	BB-0B-02-DS-01	Sidewall	0.0	0.5	1	
BB	В	0.5	BB-0B-02-S	BB-02-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Res
BB	С	0.5	EE-0C-01	BB-0C-01-DS-02	Bottom	0.5	1.0	/	
BB	C C	0.5	BB-0C-01	BB-0C-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resi
BB		0.5	BB-0C-02	BB-0C-02-DS-01	Sidewall	0.0	0.5	/	
BB	С	0.5	BB-0C-02	BB-0C-02-DS-01-MS	QC - Matrix Spike	0.0	0.5	~	
88	<u> </u>	0.5	BB-0C-02	BB-0C-02-DS-01-SD	QC - Matrix Spike Dup	0.0	0.5	1	
BB	C	0.5	BB-0C-02-S	BB-0C-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Res
BB	Ç	0.5	_BB-0C-03	BB-0C-03-DS-01	Sidewall	0.0	0.5		
BB	Ċ	0.5	BB-0C-03-S	BB-0C-03-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
CC	A	0.5	CC-0A-01	CC-0A-01-DS-02	Bottom	0.5	1.0	1	
CC	Α	0.5	CC-0A-01	CC-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
CC ·	A	0.5	CC-0A-02	CC-0A-02-DS-02	Bottom	0.5	1.0		
CC	A	0.5	CC-0.4-02	CC-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
<u>cc</u>	<u>A</u>	0.5	CC-0A-03	CC-0A-03-DS-02	Bottom	0.5	1.0	✓	
CC ·	A	0.5	CC-0A-03	CC-0A-03-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
CC		0.5	CC-0A-04	CC-0A-04-DS-01	Sidewall	0.0	0.5		
CC	A	0.5	CC-0A-04-S	CC-0A-04-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
CC	<u>A</u>	0.5	CC-0A-05	CC-0A-05-DS-01	Sidewall	0.0	0.5		
CC	<u>A</u>	0.5	CC-0A-05-S	CC-0A-05-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
CC	B	0.5	CC-0B-01	CC-0B-01-DS-02	Bottom	0.5	1.0		
CC		0.5	CC-0B-01	CC-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5	20.0	Hold for Phase I Resi
cc :	В	0.5	CC-0B-02	CC-0B-02-DS-01	Sidewall	0.0	0.5		
<u>cc</u>	B	0.5 0.5	CC-0B-02	CC-0B-02-DS-01-FD	QC - Field Duplicate	0.0	0.5		
DD			CC-08-02-S	CC-08-02-DS-01-S	Supplemental Sidewall	0.0	0.5	<u> </u>	Hold for Phase I Resi
DD	<u>A</u>	0.5	DD-0A-01	DD-0A-01-DS-01	Sidewall	0.0	0.5		
DD	<u>A</u>	0.5	DD-0A-01-S DD-0A-02	DD-0A-01-DS-01-S	Supplemental Sidewall	0.0	0.5	1	Hold for Phase I Resu
DD	Ā	0.5	DD-0A-02	DD-0A-02-DS-01 DD-0A-02-DS-01-MS	Sidewall QC - Matrix Spike	0.0	0.5	-	
DD	Ā	0.5	DD-0A-02	DD-0A-02-DS-01-SD	QC - Matrix Spike Dup		0.5	-	
DD	A	0.5	DD-0A-02-S	DD-0A-02-DS-01-S	Supplemental Sidewall	0.0	0.5		11-14 6 Pt - 1 P
DD .	A	0.5	DD-0A-03	DD-0A-03-DS-01	A1.		0.5		Hold for Phase I Resi
QQ		0.5	DD-0A-03-S		Sidewall Supplemental Sidewall	0.0	0.5 0.5	· · · · · · · · · · · · · · · ·	Wald for Dhan I Dan
DD	Ā	0.5	DD-0A-04	DD-0A-04-DS-01	Bottom	0.0	0.5		Hold for Phase I Resu
DD	A	0.5	DD-0A-04	DD-0A-04-DS-02	Bottom	0.5	1.0	7	
DD	A	0.5	DD-0A-04	DD-0A-04-DS-03-S	Supplemental Bottom	1.0	1.5	•	Wold for Phone I P
DD :	A	0.5	DD-0A-05	DD-0A-05-DS-01	Bottom	0.0	0.5	/	Hold for Phase I Resi
DD	A	0.5	DD-0A-05	DD-0A-05-DS-02	Bottom	0.5	1.0		
DD	A	0.5	DD-0A-05	DD-0A-05-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Res
	i					4.0	102	59	TANK TOT ATTEME T KES
	ale of 1 Man of 1	•		100-12-12			172		

				T	ABLE 3-1				
				Verification	Sample Identification				
Property	Excavation Area	Depth of Excavation (ft)	Boring Location	Sample ID	Sample Type	Sample : Top	Interval [ft] Bottom	Phase I Analysis	Comments
U	A	0.5	U-0A-01	U-0A-01-DS-02	Bottom	0.5	1.0	V	
U	Α	0.5	U-0A-01	U-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results
U	A	0.5	U-0A-02	U-0A-02-DS-02	Bottom	0.5	1.0	1	
U	A	0.5	U-0A-02	U-0A-02-DS-02-FD	QC - Field Duplicate	0.5	1.0	1	,
U	A	0.5	U-0A-02	U-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Result
U	A	0.5	U-0A-03	U-0A-03-DS-02	Bottom	0.5	1.0	. 🗸	
U	Α	0.5	U-0A-03	U-0A-03-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Result
U	Α	0.5	U-0A-04	U-0A-04-DS-02	Bottom	0.5	1.0	1	
U	Α	0.5	U-0A-04	U-0A-04-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Result
W	A	1.0	W-0A-01	W-0A-01-DS-02-S	Supplemental Bottom	0.5	1.0		Hold for Phase I Results
W	Α	1.0	W-0A-01	W-0A-01-DS-03	Bottom	1.0	1.5	1	
W	Α	1.0	W-0A-01	W-0A-01-DS-03-MS	QC - Matrix Spike	1.0	1.5	✓	
w	Α	1.0	W-0A-01	W-0A-01-DS-03-SD	QC - Matrix Spike Dup	1.0	1.5	1	
w	Α	1.0	W-0A-01	W-0A-01-DS-04-S	Supplemental Bottom	1.5	2.0		Hold for Phase I Result
W	A	1.0	W-0A-02	W-0A-02-DS-02-S	Supplemental Bottom	0.5	1.0		Hold for Phase I Result
W	Α	1.0	W-0A-02	W-0A-02-DS-03	Bottom	1.0	1.5	1	11010 101 111100 1 1100011
W	A	1.0	W-0A-02	- W-0A-02-DS-04-S	Supplemental Bottom	1.5	2.0		Hold for Phase I Results
W	A	1.0	W-0A-03	W-0A-03-DS-02-S	Supplemental Bottom	0.5	1.0		Hold for Phase I Result
W	Α	1.0	W-0A-03	W-0A-03-DS-03	Bottom	1.0	1.5	/	Tiold for Thase I Result
W	A	1.0	W-0A-03	W-0A-03-DS-04-S	Supplemental Bottom	1.5	2.0		Hold for Phase I Result
Х	A	0.5	X-0A-01	X-0A-01-DS-02	Bottom	0.5	1.0		Tiola for Finasc F Result
X	A	0.5	X-0A-01	X-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Result
X	A	0.5	X-0A-01 X-0A-02	X-0A-01-D3-03-3 X-0A-02-DS-02	Bottom	0.5	1.0	· /	Hold for Phase I Results
X	A	0.5	X-0A-02	X-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5	-	Hald for Dhoor I Deculu
X	A	0.5	X-0A-03	X-0A-02-D3-03-3 X-0A-03-DS-02	Bottom	0.5		✓	Hold for Phase I Results
X	Ā	0.5	X-0A-03	X-0A-03-DS-03-S	Supplemental Bottom		1.0		TT-11 C Di T D 1
X	A	0.5	X-0A-04	X-0A-03-D3-03-3 X-0A-04-DS-02	Bottom	1.0 0.5	1.5	/	Hold for Phase I Results
X	A	0.5	X-0A-04	X-0A-04-DS-03-S			1.0	V	Will C Di I I D
X	A	0.5	X-0A-05	X-0A-04-D3-03-3	Supplemental Bottom	1.0	1.5	v	Hold for Phase I Results
X	A	0.5	X-0A-05		Sidewall QC - Field Duplicate	0.0	0.5	<i>y</i>	
X	A	0.5	X-0A-05-S	X-0A-05-DS-01-FD		0.0	0.5	•	77 110 81 78 1
X	A	0.5	X-0A-05-5 X-0A-06	X-0A-05-DS-01-S X-0A-06-DS-01	Supplemental Sidewall	0.0	0.5	_	Hold for Phase I Result
X		0.5			Sidewall	0.0	0.5	7	
X	A		X-0A-07	X-0A-07-DS-01	Sidewall	0.0	0.5		
X	A	0.5	X-0A-07-S	X-0A-07-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	A .	0.5	X-0A-08	X-0A-08-DS-01	Sidewall	0.0	0.5	*	
X	A	0.5	X-0A-08-S	X-0A-08-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Result
x	A	0.5	X-0A-09	X-0A-09-DS-01	Sidewall	0.0	0.5	✓	
	A	0.5	X-0A-09-S	X-0A-09-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	A A	0.5	X-0A-10	X-0A-10-DS-01	Sidewall	0.0	0.5	· 🗸	
X	A	0.5	X-0A-10	X-0A-10-DS-01-MS	QC - Matrix Spike	0.0	0.5	V	
X	A	0.5	X-0A-10	X-0A-10-DS-01-SD	QC - Matrix Spike Dup	0.0	0.5	v	
	A	0.5	X-0A-10-S	X-0A-10-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Result
X	A	0.5	X-0A-11	X-0A-11-DS-01	Sidewall	0.0	0.5	✓	
X	A '	0.5	X-0A-11-S	X-0A-11-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Result
X	A	0.5	X-0A-12	X-0A-12-DS-01	Sidewall	0.0	0.5	✓	
X	A	0.5	X-0A-12-S	X-0A-12-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
X	Α	0.5	X-0A-13	X-0A-13-DS-01	Sidewall	0.0	0.5	. •	· · · · · · · · · · · · · · · · · · ·
Х	A	0.5	X-0A-13-S	X-0A-13-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Results
AA	A	0.5	AA-0A-01	AA-0A-01-DS-02	Bottom	0.5	1.0	✓	
AA	Α	0.5	AA-0A-01	AA-0A-01-DS-02-MS	QC - Matrix Spike	0.5	1.0	✓	
AA	Α	0.5	AA-0A-01	AA-0A-01-DS-02-SD	QC - Matrix Spike Dup	0.5	1.0	✓	
AA	Α	0.5	AA-0A-02	AA-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results
AA	В	0.5	AA-0B-01	AA-0B-01-DS-02	Bottom	0.5	1.0	V	
AA	В	0.5	AA-0B-01	AA-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Results

					ABLE 3-1				
				Verification :	Sample Identification				
Property	Excavation Area	Depth of Excavation (ft)	Boring Location	Sample ID	Sample Type	Sample 1	Interval [ft] Bottom	Phase I Analysis	Comments
BB	A	0.5	BB-0A-01	BB-0A-01-DS-02	Bottom	0.5	1.0	✓	
BB	Α	0.5	BB-0A-01	BB-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
BB	Α .	0.5	BB-0A-02	BB-0A-02-DS-02	Bottom	0.5	1.0	1	
BB	Α	0.5	BB-0A-02	BB-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5	·	Hold for Phase I Resu
BB	Α	0.5	BB-0A-03	BB-0A-03-DS-01	Sidewall	0.0	0.5	✓	
BB	Α	0.5	BB-0A-03-S	BB-0A-03-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resu
BB	В	0.5	BB-0B-01	BB-0B-01-DS-02	Bottom	0.5	1.0	✓	
BB	В	0.5	BB-0B-01	BB-0B-01-DS-02-FD	QC - Field Duplicate	0.5	1.0	1	
BB	В	0.5	BB-0B-01	BB-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
BB	В	0.5	BB-0B-02	BB-0B-02-DS-01	Sidewall	0.0	0.5	1	
BB	В	0.5	BB-0B-02-S	BB-0B-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resu
BB	С	0.5	BB-0C-01	BB-0C-01-DS-02	Bottom	0.5	1.0	✓	
BB	С	0.5	BB-0C-01	BB-0C-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
BB	С	0.5	BB-0C-02	BB-0C-02-DS-01	Sidewall	0.0	0.5	1	
BB	. C	0.5	BB-0C-02	BB-0C-02-DS-01-MS	QC - Matrix Spike	0.0	0.5	1	
BB	С	0.5	BB-0C-02	BB-0C-02-DS-01-SD	QC - Matrix Spike Dup	0.0	0.5	1	
BB	С	0.5	BB-0C-02-S	BB-0C-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resu
BB	С	0.5	BB-0C-03	BB-0C-03-DS-01	Sidewall	0.0	0.5	1	
BB	С	0.5	BB-0C-03-S	BB-0C-03-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resu
CC	Α,	0.5	CC-0A-01	CC-0A-01-DS-02	Bottom	0.5	1.0	1	
CC	Α	0.5	CC-0A-01	CC-0A-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
CC	Α	0.5	CC-0A-02	CC-0A-02-DS-02	Bottom	0.5	1.0	1	
CC	Α	0.5	CC-0A-02	CC-0A-02-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
CC	A	0.5	CC-0A-03	CC-0A-03-DS-02	Bottom	0.5	1.0	✓	
CC	Α	0.5	CC-0A-03	CC-0A-03-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resu
CC	Α	0.5	CC-0A-04	CC-0A-04-DS-01	Sidewall	0.0	0.5	1	No. of the control of
CC	Α	0.5	CC-0A-04-S	CC-0A-04-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
CC	Α	0.5	CC-0A-05	CC-0A-05-DS-01	Sidewall	0.0	0.5	1	
CC	Α	0.5	CC-0A-05-S	CC-0A-05-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resu
CC	В	0.5	CC-0B-01	CC-0B-01-DS-02	Bottom	0.5	1.0	1	
CC	В	0.5	CC-0B-01	CC-0B-01-DS-03-S	Supplemental Bottom	1.0	1.5		Hold for Phase I Resi
CC	В	0.5	CC-0B-02	CC-0B-02-DS-01	Sidewall	0.0	0.5	✓	7.1.
CC	В	0.5	CC-0B-02	CC-0B-02-DS-01-FD	QC - Field Duplicate	0.0	0.5	1	
CC	В	0.5	CC-0B-02-S	CC-0B-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
DD	Α	0.5	DD-0A-01	DD-0A-01-DS-01	Sidewall	0.0	0.5	1	
DD	Α	0.5	DD-0A-01-S	DD-0A-01-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resi
DD	A	0.5	DD-0A-02	DD-0A-02-DS-01	Sidewall	0.0	0.5	1	7
DD	Α	0.5	DD-0A-02	DD-0A-02-DS-01-MS	QC - Matrix Spike	0.0	0.5	1	· ·
DD	Α	0.5	DD-0A-02	DD-0A-02-DS-01-SD	QC - Matrix Spike Dup	0.0	0.5	✓	
DD	A	0.5	DD-0A-02-S	DD-0A-02-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resu
DD	Α	0.5	DD-0A-03	DD-0A-03-DS-01	Sidewall	0.0	0.5	1	
DD	Α	0.5	DD-0A-03-S	DD-0A-03-DS-01-S	Supplemental Sidewall	0.0	0.5		Hold for Phase I Resu
DD	Α	0.5	DD-0A-04	DD-0A-04-DS-01	Bottom	0.0	0.5	✓	
DD	A	0.5	DD-0A-04	DD-0A-04-DS-02	Bottom	0.5	1.0	1	······································
DD	A	0.5	DD-0A-04	DD-0A-04-DS-03-S	Supplemental Bottom	1.0	1.5	-	Hold for Phase I Resu
							96	54	

Note: Sample collection team will also collect one rinsate blank per day of sampling.

	TABLE 3-2 Sample Designation Format									
	Example: U-0A-01-DS-01-MS									
U-	Property U									
-0A-	Excavation Area A									
-01-	Verification Sample Location									
	Soil Sample Type:									
-DS-	discrete soil sample									
-CS-	composite soil sample									
	Sampling Depth Interval:									
-01-	0 to 6 inches below ground surface (bgs)									
-02-	6 to 12 inches bgs									
-03-	12 to 18 inches bgs									
-MS	QA/QC Designation (as needed; see QAPP for QA/QC designations)									

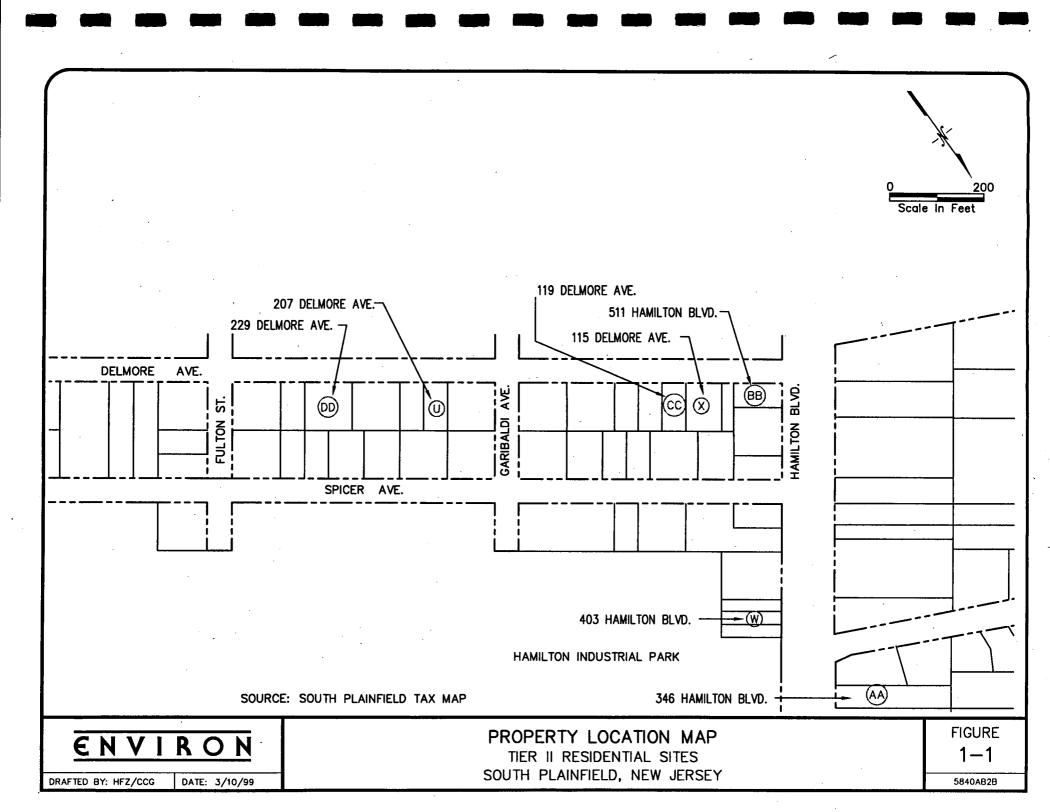
TABLE 3-3 Sample Preservation, Containers and Holding Times for Specified Analyses						
Laboratory Analysis	Analytical Method	Matrix	Preservative ⁽¹⁾	Container	Analytical Hold Time	
Polychlorinated Biphenyls (PCBs)	SW-846 8082	sediment or soil	none	8 oz. sample jar	14 days	
Polychlorinated Biphenyls (PCBs)	SW-846 8082	water	none	1 L amber glass bottle	7 days	

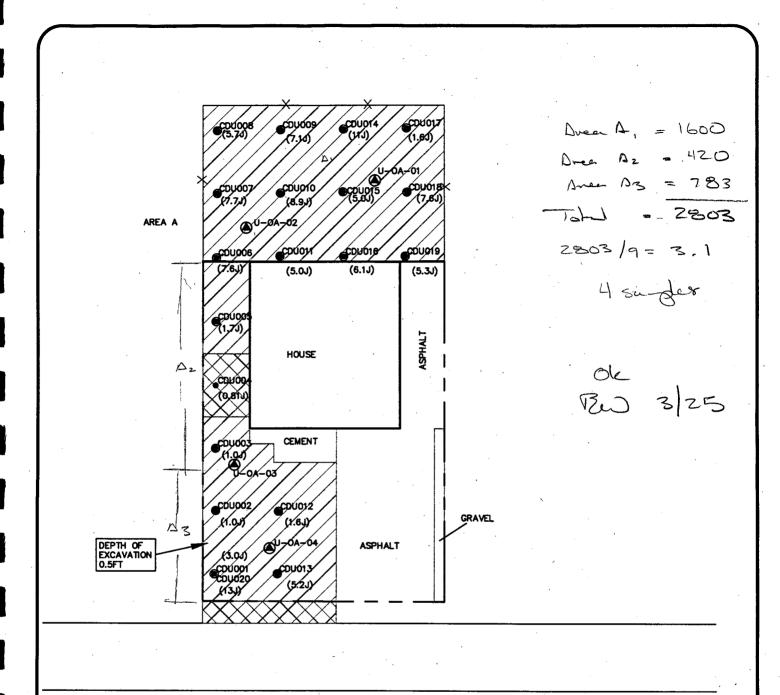
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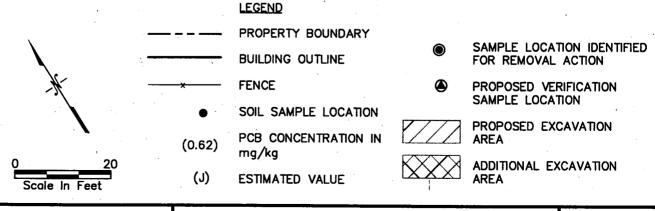
⁽¹⁾ All samples must be cooled to 4°C; additional preservatives as noted.

TABLE 3-4 Resident Contact Information				
Property	Resident	Address		
U	Mickey Mazzei	207 Delmore Avenue		
w	Adam Schechter	403 Hamilton Boulevard		
X	Catherine Turay	115 Delmore Avenue		
AA	Anthony Pellegrino*	346 Hamilton Boulevard		
BB	Franklin and Sandra Taylor	511 Hamilton Boulevard		
CC	Thomas Brandt	119 Delmore Avenue		
DD	Vidur & Ambika Budhan	229 Delmore Avenue		
* Owner of Property does not reside at Property.				

FIGURES







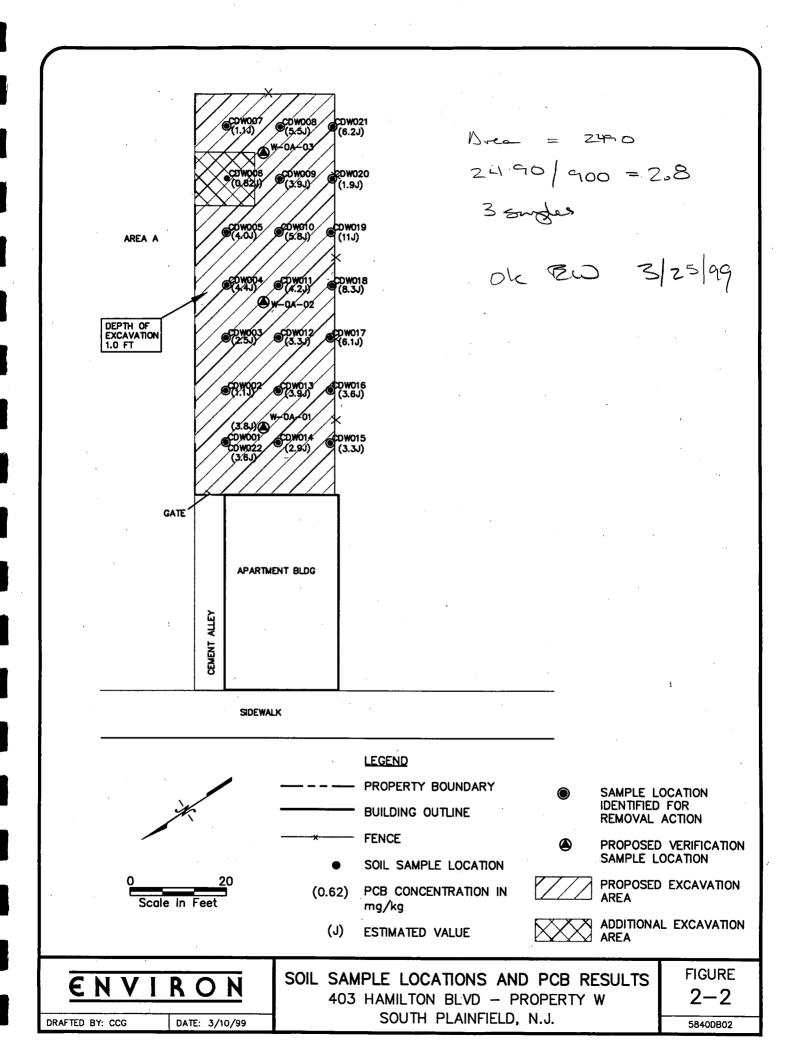
ENVIRON

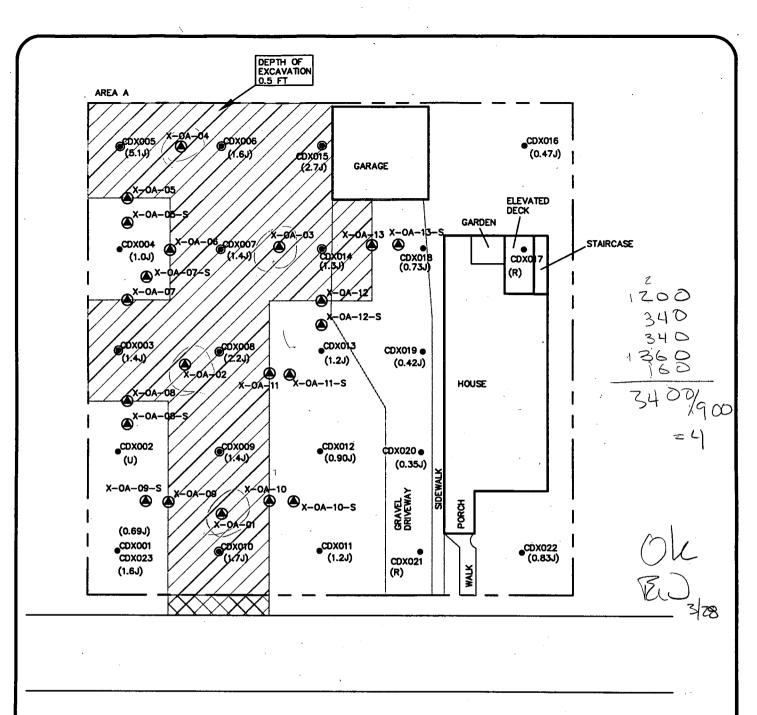
DATE: 3/10/99

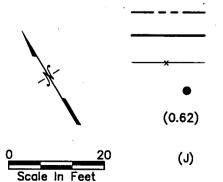
DRAFTED BY: CCG

SOIL SAMPLE LOCATIONS AND PCB RESULTS 207 DELMORE AVENUE — PROPERTY U SOUTH PLAINFIELD, N.J. FIGURE 2-1

5840DB01







DATE: 3/11/99

LEGEND

PROPERTY BOUNDARY

BUILDING OUTLINE

FENCE

SOIL SAMPLE LOCATION

PCB CONCENTRATION IN

mg/kg

ESTIMATED VALUE

- (R) REJECTED DATA
- (U) NON-DETECTED DATA
- SAMPLE LOCATION IDENTIFIED FOR REMOVAL ACTION
- PROPOSED VERIFICATION SAMPLE LOCATION



PROPOSED EXCAVATION AREA



ADDITIONAL EXCAVATION AREA

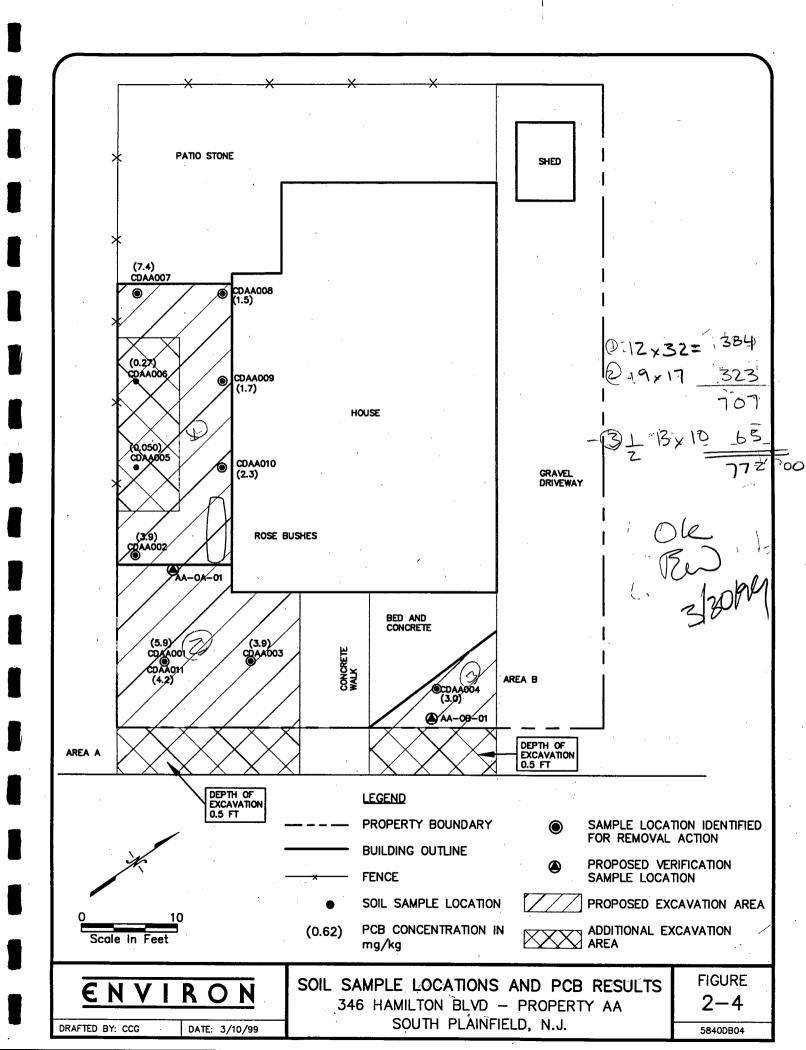
ENVIRON

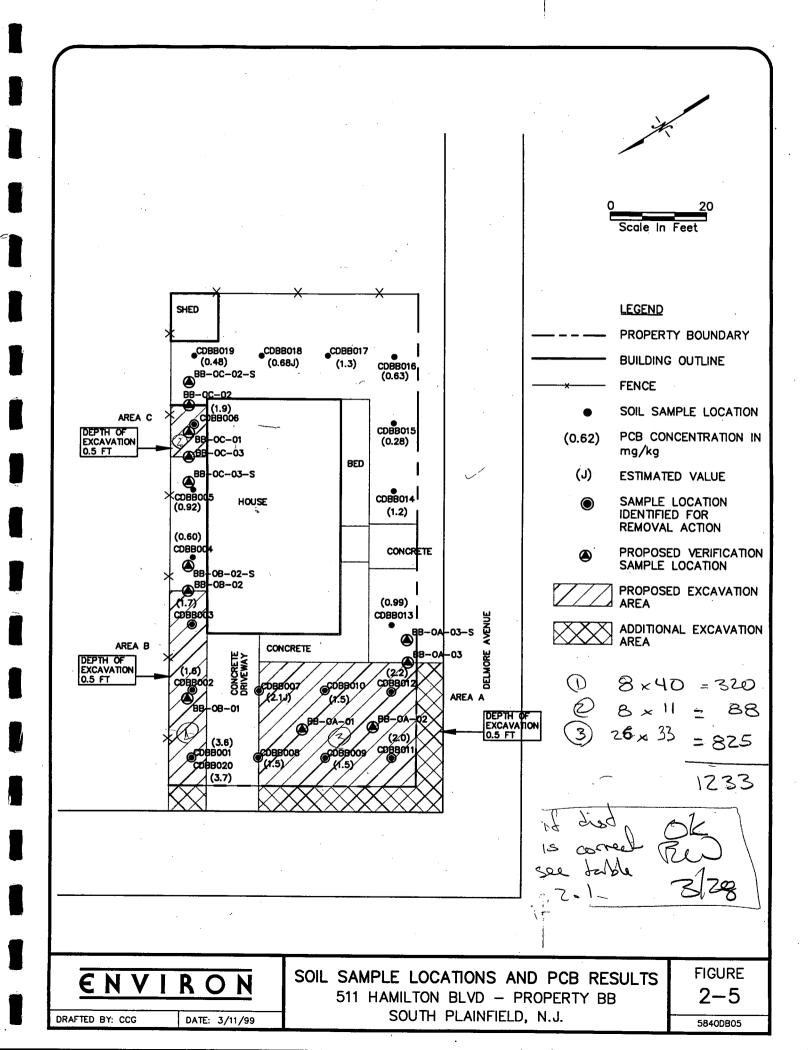
DRAFTED BY: CCG

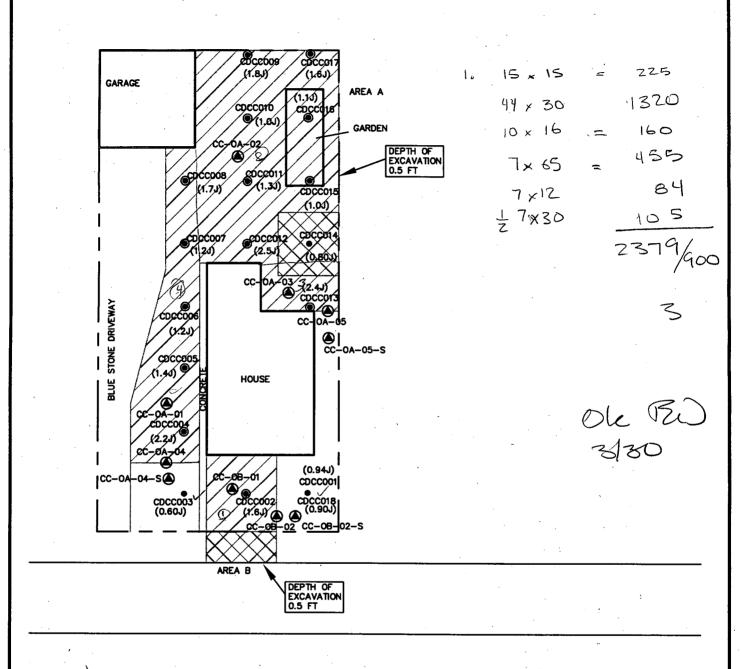
SOIL SAMPLE LOCATIONS AND PCB RESULTS
115 DELMORE AVENUE — PROPERTY X
SOUTH PLAINFIELD, N.J.

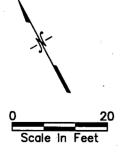
FIGURE 2-3

5840DB03









LEGEND

(0.62)

PROPERTY BOUNDARY

BUILDING OUTLINE

SOIL SAMPLE LOCATION

PCB CONCENTRATION IN mg/kg

(J) ESTIMATED VALUE

- SAMPLE LOCATION IDENTIFIED FOR REMOVAL ACTION
- PROPOSED VERIFICATION
 SAMPLE LOCATION



PROPOSED EXCAVATION



ADDITIONAL EXCAVATION AREA

ENVIRON

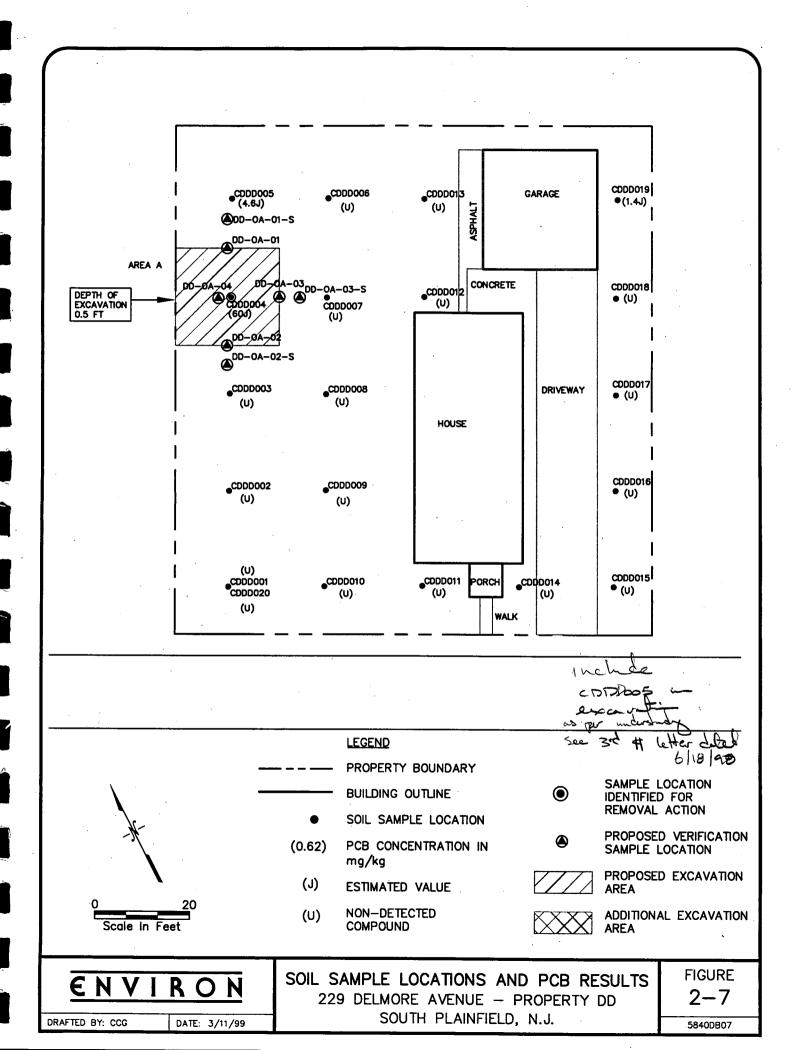
SOIL SAMPLE LOCATIONS AND PCB RESULTS
119 DELMORE AVENUE - PROPERTY CC
SOUTH PLAINFIELD, N.J.

FIGURE 2-6

DRAFTED BY: CCG

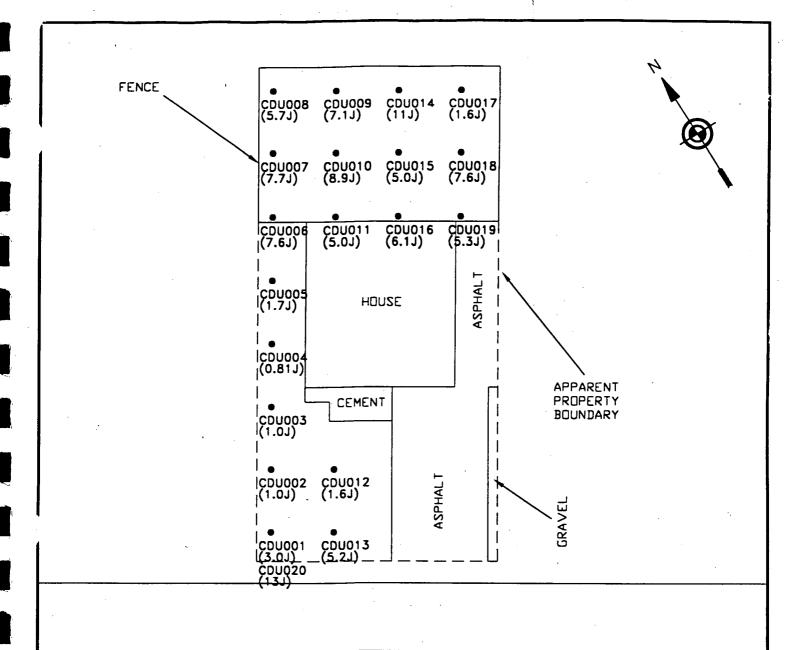
DATE: 3/11/99

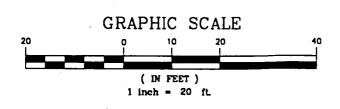
5840DB06



APPENDIX A

USEPA Soil Sampling Locations and Results





(0.62) PCB (POLYCHLORINATED BIPHENYLS)
CONCENTRATION IN mg/kg

(J) ESTIMATED VALUE

FIGURE 6 - SOIL SAMPLE LOCATIONS
AND TOTAL PCB RESULTS

CORNELL - DUBILIER ELECTRONICS - PROPERTY U

RESIDENTIAL SAMPLING - APRIL 21, 1998

SOUTH PLAINFIELD, N.J.

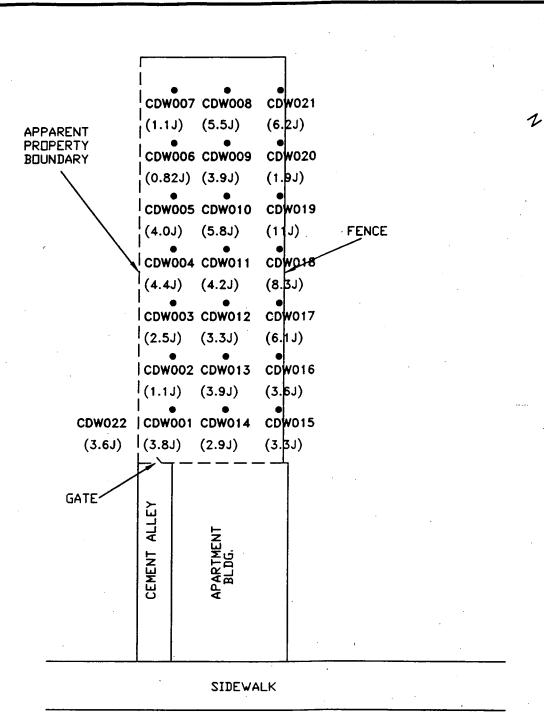
US EPA REMOVAL ACTION BRANCH
SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
CONTRACT; 68-W9-0019

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION DRAWN BY:

IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC., C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC., R.E. SARRIERA ASSOCIATES, AND GRB ENVIRONMENTAL SERVICES, INC.

DRAWN BY: J. HAMPTON JR. EPA TASK MONITOR: E. WILSON

START PROJECT MANAGER: M. MAHNKOPF



LEGEND (0.62)

PCB (POLYCHLORINATED BIPHENYLS)

CONCENTRATION IN mg/kg (1) ESTIMATED VALUE

GRAPHIC SCALE (IN FEET) 1 inch = 20 ft.

Roy F. Weston, Inc. FEDERAL PROGRAMS DIVISION

IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC., C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC., R.E. SARRIERA ASSOCIATES, AND GRB ENVIRONMENTAL SERVICES, INC.

FIGURE 8 - SOIL SAMPLE LOCATIONS AND TOTAL PCB RESULTS CORNELL - DUBILIER ELECTRONICS - PROPERTY W RESIDENTIAL SAMPLING - APRIL 21, 1998 SOUTH PLAINFIELD, N.J.

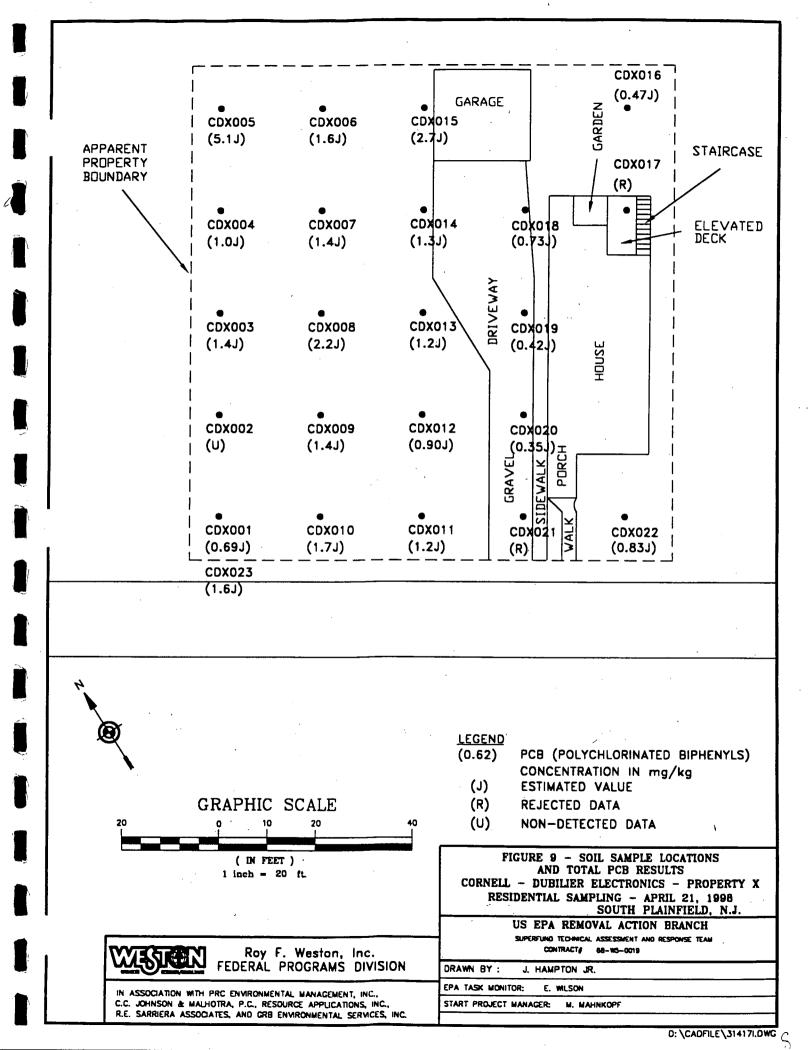
US EPA REMOVAL ACTION BRANCH SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM CONTRACT# 68-W5-0019

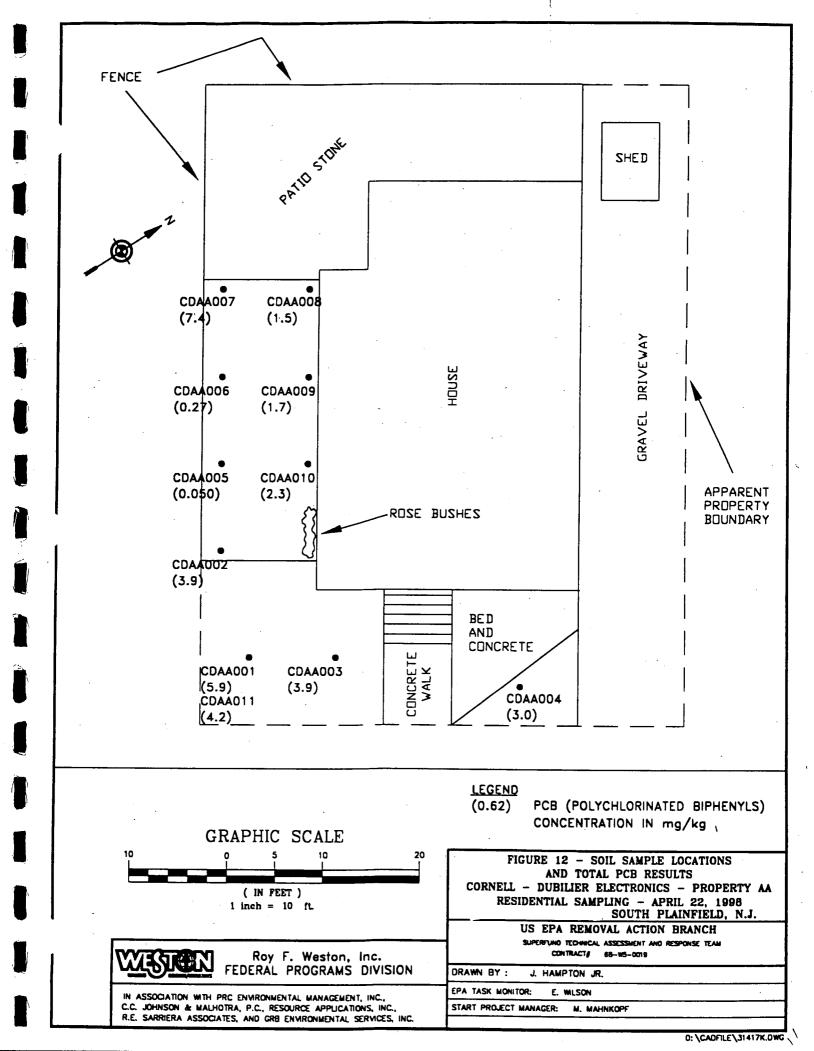
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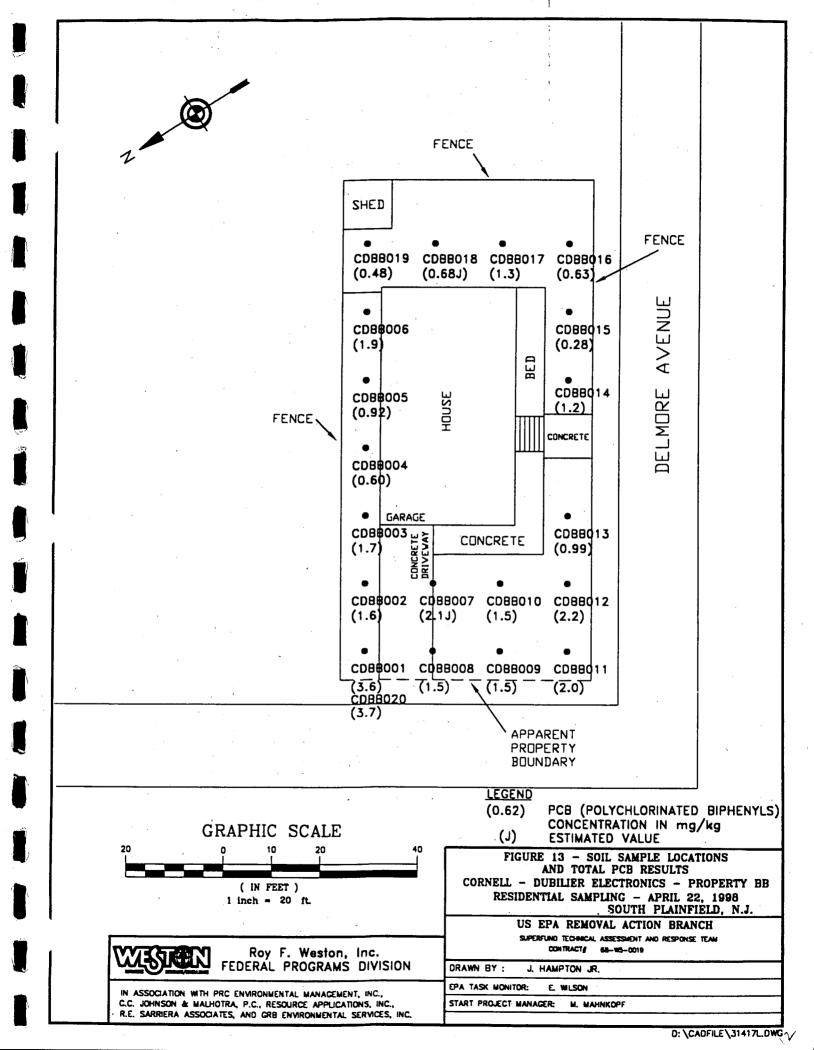
J. HAMPTON JR. EPA TASK MONITOR: E. WILSON

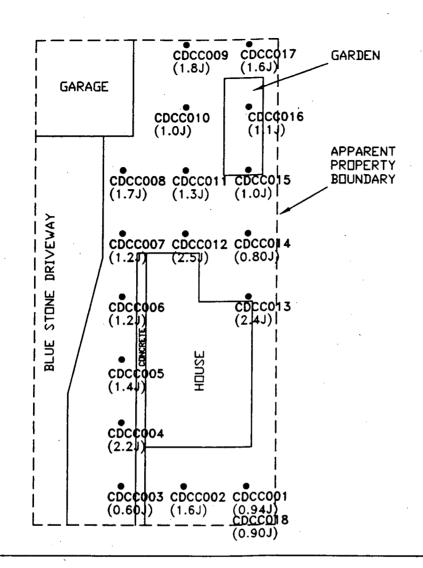
START PROJECT MANAGER: M. MAHNKOPF

D: \CADFILE\31417H.DWG











GRAPHIC SCALE

20 0 10 20 40

(IN PEET)
1 inch = 20 ft.

LEGEND

(0.62) PCB (POLYCHLORINATED BIPHENYLS)
CONCENTRATION IN mg/kg

(J) ESTIMATED VALUE

FIGURE 14 - SOIL SAMPLE LOCATIONS
AND TOTAL PCB RESULTS

CORNELL - DUBILIER ELECTRONICS - PROPERTY CC

RESIDENTIAL SAMPLING - APRIL 23, 1998

SOUTH PLAINFIELD, N.J.

US EPA REMOVAL ACTION BRANCH
SUPERFURD TECHNICAL ASSESSMENT AND RESPONSE TEAM
CONTRACTS 68-W5-0019

WESTERN .

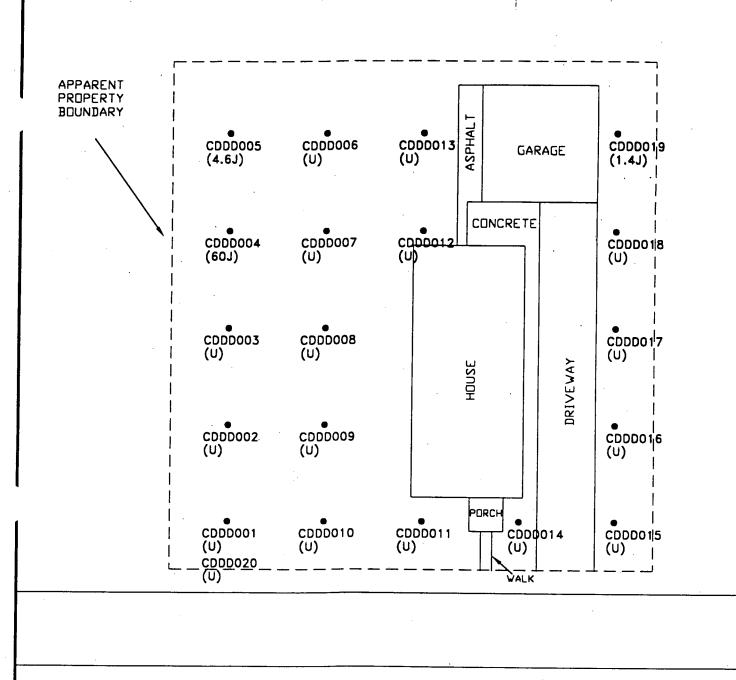
Roy F. Weston, Inc. FEDERAL PROGRAMS DIVISION

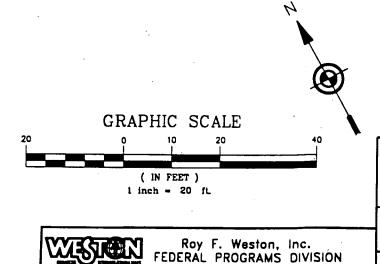
IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC., C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC., R.E. SARRIERA ASSOCIATES, AND GRB ENVIRONMENTAL SERVICES, INC. DRAWN BY :

J. HAMPTON JR.

EPA TASK MONITOR: E. WILSON
START PROJECT MANAGER: M. MAHNKOPF

D: \CADFILE\31417M.DWG





LEGEND

(0.62)PCB (POLYCHLORINATED BIPHENYLS)

CONCENTRATION IN mg/kg (J) ESTIMATED VALUE

(U) NON-DETECTED COMPOUND

FIGURE 15 - SOIL SAMPLE LOCATIONS AND TOTAL PCB RESULTS CORNELL - DUBILIER ELECTRONICS - PROPERTY DD RESIDENTIAL SAMPLING - APRIL 23, 1998 SOUTH PLAINFIELD, N.J.

US EPA REMOVAL ACTION BRANCH SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM CONTRACT# 68-W5-0019

DRAWN BY :

J. HAMPTON JR. EPA TASK MONITOR: E. WLSON

START PROJECT MANAGER: M. MAHNKOPF

IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC., C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC., R.E. SARRIERA ASSOCIATES, AND GRB ENVIRONMENTAL SERVICES, INC.